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ABSTRACT

Commissioned by the Programme on Teacher Policies within the Organization for Economic Cooperation and Development (OECD), a team of educators, school administrators, and research workers prepared this report aimed at demonstrating how new patterns of teacher tasks emerged from educational development work in the Malmo region of Sweden. Primarily, the Malmo activities focused on solving the essential problem of how to combine individualization of instruction with social education. The development work, carried out in close cooperation with a city-based educational development center and the research department of a school of education, showed the need for increased flexibility in the use of resources as well as in several activities of the school. New categories of personnel were introduced into the schools, and teachers had to learn to cooperate with them, making plans in teams with other teachers and with pupils. More stress was placed upon the pupils' social and emotional development, as well as upon the handling of new teaching aids. The report bases its analysis of emerging new patterns of teacher tasks upon descriptions of innovative situations and reports on developmental and research projects. (Author/JS)

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educational and psychological interactions

Rodhe, Birgit & Gran, Bertil (Eds.):

NEW PATTERNS OF TEACHER TASKS

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NEW PATTERNS OF TEACHER TASKS

A report on Swedish experience in the Malmö region

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Commissioned by the Programme on Teacher policies within the Organization for Economic Cooperation and Development (OECD), a team of educators, school administrators and research workers prepared a report in late 1973 aimed at demonstrating how new patterns of teacher tasks emerged from educational development work in the Malmö region in Sweden. Although the actual experience on which the report (which was discussed at two OECD conferences in Paris during 1974) bases its findings was made in the Malmö area, it reflects experience and development of the whole Swedish educational system in the decade from 1962 to 1972 when the 9-year comprehensive and compulsory grundskola was established at the same time as majór reforms also at other educational levels were proposed and introduced. Primarily, the Malmö activities aimed at solving the essential problem of how to combine the individualization or instruction with social education as main educational objectives The development work, carried out in close cooperation of a city-based educational development centre and the research department of a school of education, showed the need for increased flexibility in the use of resources as well as in the several activities of the school. Thus a movement away from a static and rigid system towards a dynamic, where teacher tasks develop towards more integration and more differentiation emerged. New cathegories of personnel were introduced into the schools and teachers had to learn to cooperate with them, planning in teams also with other teachers and with pupils. More stress was placed upon the pupils' social and emotional development, also upon the handling of new teaching aids. The report bases its analysis of emerging new patterns of teacher tasks upon descriptions of innovative situations and reports on developmental and research projects.

Keywords: Teacher behaviour, teaching method, individualized teaching, social education, team teaching, teaching aids, educational research, reform of education. OECD Sweden (EUDISED).

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CHAPTER I

BACKGROUND

(1) School Reform and Development Work

1. The Swedish school reform of the mid-twentieth century has been not only, perhaps not even primarily, an educational reform, but a major social reform. The creation as from 1962 of the common 9-year grundskola (the comprehensive "basic" school) aimed at offering equal educational opportunity to all Swedish school children between 7 and 16 years of age, irrespective of their geographical, economic or social position. The outcome of 20 years of preparation, 10 of which were devoted to extensive practical experimentation, was an organizational model of heterogeneously composed classes, basically remaining the same from the first year through the eighth (as from 1970 through the ninth). Also the upper level of the secondary school was reorganized in 1971 into an integrated "gymnasieskola" of 2 or 3-year courses (4 years for certain technical courses), offering 23 differents lines of study (corresponding to earlier academic or vocational courses), now in principle all opening up the road towards the university.

2. Both in the grundskola and in the gymnasieskola, the span of intelligence and interests in each class unit has widened immensely. When teachers asked how it would be possible to meet such variety within the same class, they were told that the answer was individualization, inside the framework of the class unit of, at the maximum, 30 pupils. The class as such was to form the basis for the social education of the pupils. To implement the task of individualization, combining it with the equally important social education, remains the most important and the most difficult task of Swedish teachers. If the school reform was engineered and tested in the 1940s and 1950s, it was organizationally achieved in the 1960s and the early years of the 1970s. On the present decade of the 1970s rests the major task of realizing the major objectives of the school reform on the inner level, of combining individual teaching and education with social education.

3. Thus, as early as the 1960s, practical experimentation towards the realization of these aims was started. It would be an over-simplification to say that all research and development work in Sweden in the educational field has had its roots in this double task of the teachers and the whole school, but certainly the urgency of the task has had far-reaching consequences. In the classrooms, teachers often rather desperately, sometimes constructively, started asking for ways and means of fulfilling their new tasks. Of the teachers who were to teach on the upper level of the grundskola (the level of the 14-16 year olds, where difficulties were felt to be the greatest), some had experience in teaching the pupils of the old realskola, most of whom had been headed towards further education of an academic type, and some had been teachers in the folkskola, for those who had entered vocational life after an average of 8 years of schooling. In favorable circumstances this mixture of teacher competence in the grundskola became an asset, as some teachers contributed more subject knowledge, others more experience of work with slow learners to the common task. More or less spontaneously, teachers started trying out and,

developing new methods, producing new kinds of material, developing new modes of work often in terms of cross-disciplinary projects, of team teaching, of increasing pupil activity. In general, it was felt imperative to break loose from traditional face-to-face teaching. Other traditional routines of teaching were also increasingly questioned.

(2) Development Work in the Malmö Area

4. It is against this background that the development work of the 60s and 70s in the Malmo area has to be seen. It has been carried out within two different frames of organization - the Malmö city school system and the Malmö School of Education - but there has all the time been close interaction between the two organizations and, also, the objectives of the work attempted have been closely related. Broadly speaking, the objectives have been to realize the overriding objectives of the Swedish school reform, as outlined above.

(a) Development Work within the City School System: the Emergence of the Educational Development Centre (EDC).

5. Early on in the period of the introduction of the grundskola, the need was felt for a more systematic attempt at developing suitable modes of work, primarily for individualization and social education. The experience gained from a couple of individual schools where experimental work had been carried out in the 1950s was incorporated in the creation of the Educational Development Centre of Malmo, which started its work in 1964 after a parliamentary decision of the same year, had made the creation of such centres possible. From the very beginning, the work of the centre related itself to and aimed at incorporating efforts by teachers who were already at work, trying to find workable ways fo realizing the objectives of the grundskola. With these existing teacher initiatives as points of departure, the Centre developed some series of projects, all in the spirit of the parliamentary decision which formulated the objectives of the educational centres as being: "/to find/ practicable ways of giving effect to the intentions of the educational reforms proposed or already decided, also at the levels higher than the compulsory school, /and/ to facilitate the progressive revision of the curriculum" (cf IMTEC II, p 346).

6. Three basic areas of work were the following:

- o The selection and structure of subject matter
- o The pedagogical organization of the school: pupil grouping, team teaching, flexible scheduling etc
- o The care for pupils with special needs

Though these areas represented different points of departure for development work, they gradually merged and seemed to be but different aspects of the same emerging pattern of the new school. Obviously, such a school also needed a new shell. Implications for school building grew out of actual pedagogical experience and were put to use, when a series of new schools was to be built in the Malmö area. The new school buildings were all created as open plan schools suitable for an open and flexible education.

(b) The Research Activities of the Malmö School of Education

7. As from 1962, the Malmö School of Education started its work full scale, that is giving primary school teachers (for the lower and middle level of the grundskola) their complete training and giving subject teachers for the upper level of the grundskola and those of the gymnasieskola their pedagogical training after an academic degree. At about the same time, the Department of Educational and Psychological Research, attached to the School of Education, started its work. When the Educational Development Centre came into being, the president of the School of Education and the head of the research department heartily sponsored the initiative and became members of its planning group. As research and development projects of the Department of Educational Research began to take shape, field tests were mostly carried out in the Malmö city schools. Thus, from the very beginning, a positive and dynamic relationship developed between the leadership of the EDC and the Department of Educational Research.

8. One of the main concerns of the new research department was how to put into practice the principle of individualization of instruction. The principal solution was to be systems of method and material, mainly for the teaching of mathematics and German (the IMU and UMT projects).

(3) Assets and Diabilities of Development Work in the Malmö Area

9. After the parliamentary decision on the grundskola was taken in 1962, Malmö was the first major city to introduce all three levels (lower, medium and upper levels, each of 3 years) as early as the fall of 1962 (cf IMTEC II p 325). Leaders within the Malmö directorate of schools had been actively engaged in the central committee work that prepared the parliamentary decision and therefore shared an eager interest in its implementation. The local Board of Education was favorable and able to influence the City council into giving relatively generous amounts of money towards new educational equipment. At the same time, library and audiovisual centres were established for the whole school system, offering technical service and pedagogical advice, to some extent also being a central store for films, and such tapes, records, books etc as are not in constant use at the schools. The existence of these centres makes it possible for school librarians to take a more active part in the actual teaching situations, being liberated from the greater part of the technical chores.

10. Furthermore, the city authorities made it possible for the Board of Education to create an organization of educational advisors, supplemented by expert groups of teachers who offered active help to their colleagues in fulfilling their new and difficult tasks. In these expert groups, teachers of different competence pooled their skills in order to help the city authorities and their colleagues with the selection and production of suitable material and with the introduction of new methods of work.
In addition, the resources for guidance and pastoral care at each school were augmented. The efforts of teachers and principals were supplemented by school psychologists, social workers, vocational guidance teachers etc and teams for the pastoral care of pupils were developed.

11. The fact that a large School of Education was at work in Malmö and rapidly expanded its field of work during the 1960s also served to raise the level of pedagogical interest and of professional skill in Malmö schools.

12. However, there were also drawbacks as regards development work in the Malmö area.
In the beginning of the sixties, the city school system was still short of classrooms, an old headache with the city authorities. During the decade, the city grew rapidly (this trend has been reversed as from 1971). The decade 1962-1972 represented a boom in school building, a heavy load both economically and administratively, but also an incentive for developmental work within the domaine of school building (see above and below on the Samskap project, p 30).

13. Also, during the sixties the research activities of the Department of Educational Research were to be started, as it were from scratch. Its main relationship in planning and financing was with the National Board of Education. During this period, no personnel or financial resources were earmarked for research in cooperation with the EDC. Although research workers took an active part in development projects within the EDC, they had to do this more or less with their left hand, in their spare time and with very little economic remuneration. For the EDC work as a whole, only very limited means were available, partly deriving from the National Board, partly from the local authority (cf IMTEC II, 349 f). The leadership rested with the city Board of Education directorate, that is to say with people who were all at the time carrying heavy administrative responsibilities besides those for developmental work. These circumstances may explain some of the rather unsystematic character of the planning and performance of the EDC projects.

14. Only from the beginning of the 1970s, when EDC was transformed into another organizational pattern called MED, has the relationship of field development work and research accompaniment found its proper organization, though the resources are still scarce and the future uncertain. This means a partnership in planning and execution of development and research projects all through, in itself wanted by both parties from the very beginning but for various reasons only slowly emerging and finding its organizational structure.

(4) Development Work - for what?

15. As has already been repeated over and over again, the development work of the Malmö EDC, and also to a great extent that of the Malmö Department of Educational Research, grew out of a need to solve the major problem of implementing the new school reform, that of combining individualization and social education. It should be noted that a change in the pattern of teacher tasks never was a primary aim. The change in teacher patterns, or rather in the total personnel organization and rôle division within schools emerged as one of several not originally calculated consequences of the developmental activities. It appeared to be a prerequisite for solving the major problems involved. Change in the physical facilities of the school was another. Still another was the increased participation of the pupils in the planning and administration of teaching, a development which naturally geined impetus through the world-wide student movement in the late 60s. How to institute and develop a vital school democracy became another important problem to be solved within the framework of research and development activities.

16. Thus, gradually a new pedagogical organization emerged as a result of these research and development activities. When the National Board of Education planned a revision of the 1962 curriculum for the grundskola, the Lgr 62, the Malmö experiments formed one of the main sources of inspiration for working out an organizational model, called the PEDO model. During the years 1967-1970, this model was tried out in the new EDC in Skellefteå as well as in Malmö subsequently also in other places. This experimentation formed a basis for important aspects of the new curriculum, the Lgr 69.

(5) The Cost Aspect

17. The economic framework for schools where development work was carried out was mainly the same as in other schools. As a small remuneration for time given to conferences, planning and reporting, the personnel engaged were given annual fees, seldom amounting to more than the regular pay for a couple of teaching hours. Basically, however, the allotment of teaching staff in these schools was figured out according to the same rules as for the whole school system. These rules are part of a complicated system of state grants, of which an outline is given in an Appendix to this chapter. As teacher salaries are mainly financed through state grants, whereas building and equipment as well as personnel other than teachers are mainly paid by the local authority (the state also gives grants towards the cost of new school building), it is hard to convert teacher time into any other kind of resource for the school. However, a special government decision made it possible for experimenting schools to transform teaching time into time for non-pedagogical aids, teaching material etc.

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(6) Teacher Reactions to New Patterns

17. The new patterns of teacher tasks which have emerged as results of development and research in the Malmö area have been created by teachers, who have wanted to solve the problems that the new schools posed. This, perhaps, is one of the reasons why teachers' unions were slow to react to what was happening. Only around 1970 did they seem to discover that radical change was taking place as a result of development work. Their reactions were sharp, and since than constant discussions have been running. Conflicts have sometimes arisen, at present aggravated by the fact that Sweden faces a surplus of teachers.

APPENDIX

Resources and their allotment

18. According to the Education Act it is the duty of the community to provide education for children in the grundskola and to provisions of educating children and adolescents in gymnasial (secondary) schools.

19. Even if schooling is a municipal matter, the state also has its obligations as to education. In accordance with Swedish tradition the state has a supporting and a directing function. The interaction of the two functions can be illustrated by a simple diagram:

Description of goals	undecided
Allotment of resources	decided

The interpretation of the curricula is to a great extent left to the Education committees and to the schools.

20. Instead, a detailed regulation of the outer frame-work of the activities is made through the allotment of resources. There used to be a system of state grants to different branches of educational activities: Government subsidies were thus granted to cover the major part of teachers' salaries, school transport, meals, teaching materials (as a stimulant) and school libraries. All these subsidies affected the operating costs.

21. From the 1960s there has been a reorganization of the comparatively large number of government grants. Now, on principle, only one subsidy is granted to the grundskola, namely the so-called general operating grant. This grant is supposed to comprise not only all the above-mentioned subsidies for the running of schools but also certain support of other municipal activities among children and adolescents. The operating grant is calculated with regard to the number of posts for teachers and school leaders created at the school in the stipulated way.

22. A post forms the basis for grants only in so far as it carries teaching or other services laid down in time-tables or other instructions. The annual salary of a post is determined by the salary-grade in which the teacher is placed. In this way the basis for grants to the grundskola is determined. The operating grant is given to the municipality, reduced by a minor municipality share varying according to the so-called housing classification.

23. The same system is valid for the gymnasial school with the exception of the municipality share, which is not deducted. The government grants are thus closely related to teachers' salaries and posts. Nevertheless, it is possible to compare state costs and municipal costs per pupil.

24. For the school year 1973/74 the average cost for a pupil in the grundskola can be estimated at 7.400 S Crs. Hereof the state pays some 4.100 S Crs or 55%. A pupil at secondary school costs, similarily, some 9.900 S Crs of which the state pays 6.100 S Crs.

CHAPTER II

GLIMPSES OF NEW PATTERNS

(1) Introduction

25. Before starting to describe the various research and development projects through which teacher patterns have gradually been charged, let us invite you to visit five Malmö schools where new patterns are actually in practice. We have chosen them so as to illustrate five different aspects of change. They also reflect varying processes of change.

(a) A School for Co-operation

26. We will start by letting you look into the diary of a teacher of the nine-year comprehensive grundskola. He took part in the initial effort of trying to find new subject content and structure in order to satisfy the needs of the widely heterogeneous classes of the new school. He now works in a school where the whole pedagogical organization has changed as a result of successive development activities, of which he himself is one of the engineers.

(2) From a teacher's diary, spring term 1973

27. Sometimes I do wonder if it wasn't easier before, when one knew which pupils and which classes to meet every day. One knew what subject to teach and which book to use. There was law and order. Sometimes there were complications: one entered the storeroom at the same time as a colleague, looking for the same map or the same book-box. Then one suspected that something was going on in the adjacent room and that that "something" might be connected with one's own work. After nine years of experimentation with cooperation in various forms, it has now gone so far that one can hardly do anything on one's own. One has grown dependent not only on colleagues but on teachers' assistants and on pupils, in a way that could not be foreseen when it all started in 1964. The relationship towards the school administrators and the caretaker has also altered. It feels as if walls have fallen down and borderlines been erased. The borders between different subjects have disappeared to a great extent. At least the colleagues of my teaching-team have long since stopped putting subject-labels on the study project of our year plan for social orientation subjects. It's impossible to compare the old and the new way of working. The work is much freer now.

28. Today we had one of these typical swirling days when most things happened, both what was supposed to happen and things not at all foreseen. In our combined store-room and work-room our teachers' assistant, Ulla, had already started to sort heaps of materials for the first morning session which would start an hour later. We were to begin with a large class, where some slides and a guest-lecturer from the County Environment Campaign would be the extra stimulus. After long discussions our work this week has been entitled "Environment in Centre".

29. There are seven teachers and one assistant in our team and together we are responsible for all the teaching of social orientation subjects in the three grades (7, 8, 9) of the upper level of the compulsory school, 18 classes

in all. Each working unit comprises approx. 90 pupils and consists thus of three classes with a parallel time-table and three periods each per week. Each period has 80 minutes. All working units have their own three teachers, each one responsible for one class in the four social orientation subjects together. But we are often both four and five teachers working together, as we have about 25 so-called resource-hours at our disposal. These hours are distributed among the units according to need and decided upon at the weekly conference. Ulla notes all the formal decisions which are the basis for co-operation and for all the practical details. Ulla has become a champion at keeping all the papers in order, minutes, time-tables, stencils etc. We have a whole wall (5.3 mtrs) full of pigeonholes for all these sheets of paper. Now my colleagues, Gunnel and Kenneth, had come too. Together we work with 7a, 7b and 7c. All in a hurry it was decided that they could wait for our pupils up in the class-rooms and come down to the auditorium when we should start. Ulla and I would go down earlier to get the projector and the black-out ready and to keep a look-out for our lecturer. It soon became clear that he had gone to the wrong school (unfortunately we have no sign with the name of the school) and he turned up ten minutes late. This, actually, did not create any problems, because the headmaster and his administrative assistant had taken the opportunity to attend our first large class of the environment projekt. These two gentlemen took their time in telling the pupils what they expected from this week's work.

30. When we got back to our class-rooms after the large class and set about the instructions for group work there was absolute confusion. As usual on such occasions I have the feeling of completely losing control of my work. Suddenly one is surrounded by pupils - not only from one's own class but also from others. There are always pupils who want to work with a friend in the parallel class. Many want to alter the tasks given or make their own. Some dash to secure books or papers, probably driven by some sort of fear that there won't be enough material for everybody. Someone wants to go home or to the library to fetch books they know "are much better". Some simply must have a cassette recorder otherwise they cannot possibly interview! And why on earth are there not enough cameras for all the groups and there is a camera without a flash-light!

31. At noon the weekly conference was scheduled. Not much was said about the current study project, as it had been planned during earlier conferences. Most of the time was spent discussing the outlines of the study project "Africa", which was to start some weeks later. This time two of my other colleagues, Ann-Kerstin and Björn, were responsible for the planning and today they had invited an advisor from the museum to the conference. We wanted to know if study-visits could be arranged and if we might borrow some material from their archives. Study-visits were possible, but only for grade 9, as we would have to alter the time-table of other subjects too much if grades 7 and 8 were to be able to go to the museum too. Instead we were recommended to contact a shop for African handicraft which was willing to lend us things. Then Ann-Kerstin said that she had been in touch with a teacher of comparative religion at the University of Lund and that he had promised to come and tell the pupils about the religions of primitive peoples. Experts from outside are often more interesting than the usual old teachers...

32. As I am the leader of the teaching-team I have the advantage of tutoring a small group of pupils for a couple of hours every week in our work-room. At the same time I can attend to some of the administrative duties. Today I asked the leader of the natural sciences teaching-team to come and

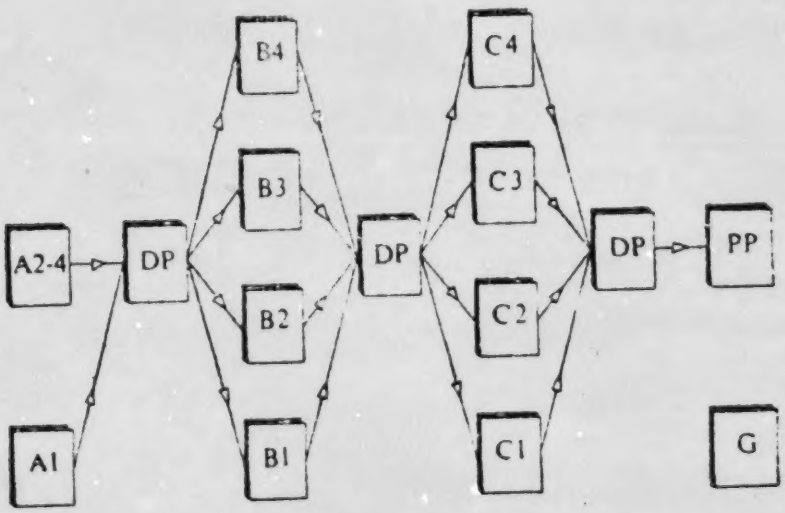
have a look at our environment project so that he later would be able to adapt the more scientific oriented environment teaching in his sector to ours. When the last period started I went home. Well, as a matter of fact, I was supposed to try to produce a list of possible tasks for a series of freely chosen study projects to be actualized at the end of the term, but I fear that I shall not get any further today than this diary . . .

(3) Individualized mathematics teaching - IMU in practice

33. Most of the teaching material used at Söderkullaskolan has been and to a great part still is produced in the school as part of the common planning by teachers and pupils with the assistance of teacher assistants. For subjects such as the humanities and science this seems to be an advantageous arrangement. For subjects like mathematics or foreign languages, where the training of skills forms a major part of the teaching and learning processes, the use of professionally produced, individualized instructional material would seem to be preferable. As mentioned above, one of the major preoccupations of the Malmö Department of Educational Research has been to produce such material and to test its effects. Let us see, what it means to use the individualized material for mathematics, as designed for the upper level of the grundskola.

34. IMU is a system of teaching mathematics in a wholly individualized way in the classes 7, 8 and 9 at the upper level of the grundskola. The course is covered by nine modules. A module requires about one-third of a school year. Every module consists of 6-8 booklets (components) of 50-150 pages each.

35. Component A is common to all students, but each student works at his own pace. When the students have completed component A they do a diagnostic test (DP in the illustration). On the basis of the information provided by the test, the teacher assists the student in selecting a component B, of three possible alternatives. Then there is also a component C to be used in the same way. In the last version of the material components for group activities (G) and a special level for the intellectually weakest pupils. (A1, B1, C1 have also been developed.)



36. As soon as students have completed one module, they proceed directly to the next. No annual grades or marks are given. The large number of modules and components results in a great number of "possible ways" through the course (more than 10 million!).

37. There is a special handbook on method for the teachers that is applicable to all modules. This handbook describes a typical lesson in a large class composed of 2 or 3 ordinary classes.

1. The lesson is prepared during a conference held by the teaching team to determine which tests will be held, what group instruction will take place, who is to be responsible for the group instruction, which material is to be distributed to which students, etc. The assistant takes notes throughout the conference.

2. The group instruction, if any, is prepared by the teacher nominated.

3. Before the lesson commences, the assistant produces all the material required.

4. During the lesson the assistant is busy distributing and collecting material, supervising students carrying out diagnostic tests or solving problems, noting the student' progress through the course, the extent of their homework, checking their attendance and so on. The assistant should be sufficiently familiar with the material as to be able to answer simple questions posed by the students. In general, however, she will refer the student to one of the teachers. Meanwhile the teachers circulate among the students, helping those who have got stuck, seeing to it that the students work carefully and in accordance with the instructions laid down, giving the students encouragement and spurring them on, discussing the results of diagnostic tests, helping the students to choose suitable sections for revision, etc. One of the teachers may be busy with group instruction.

5. After the lesson the assistant arranges all the material.

6. Before the next conference the assistant corrects the students' diagnostic tests and enters up all the data on the students' progress, etc. The scope of the assistant's work is normally subject to local circumstances but the following tasks are probably her most important ones:
   - To attend the lessons
   - To be responsible for the material
   - To register the current work of the students
   - To register student data
   - To correct diagnostic tests
   - To copy out and make stencils of material produced by the teacher for group instruction
   - Clerical duties of various kinds, including keeping the minutes at conferences, notes on group instruction, notes on absence.

7. At the next conference (a minimum of 1 conference per week per Large Class is necessary) the teaching team discuss their experiences, go through the results of the diagnostic tests, decide on measures to be taken following the results, for example individual revision or group instruction, survey the students' progress in their studies, decide whether any students require further encouragement, help, etc. The following questions are dealt with at the majority of conferences:

. How far have the students progressed with their work? How much homework have they been doing? Do any students need special homework?
. How have the diagnostic tests turned out? Which students need to revise their work?
. Ought there to be group instruction next time? What type of group instruction? Who is to organise it?
. Are there any students who have nearly completed their booklets? Which booklets should we recommend for their next phase?

(4) An Open Plan School

38. As a new pedagogical organization emerged, teachers found themselves hitting walls, which often seemed to be in the wrong place. The traditional school building did not fit the new pedagogical models. One of the results of development work in the Malmö area has been to design a new kind of school building which should function better than traditional ones for the new pedagogical models. These new schools can be characterized as open plan schools. What is it like to teach in such schools? Let us visit Örtagårdsskolan, an open plan school for 400 pupils aged 7-13.

39. It is half past eight on a September morning and the school day has just started. The seven-to-nine year olds are working in areas of varying character, some in rooms of ordinary class-room type (often coupled in pairs with a folding wall in between) partly in the adjacent study hall. There are no desks of the traditional type: the pupils are working at tables of varying size and shape, oblong or round ones, suitable for the work of two, four or more pupils. Study carrels are also available for those who need a more isolated study environment.

40. About 20 7-year olds who have just started school are working with material directing them in an individualized way towards their first reading instruction. There are five grown-ups this morning working with this small group of children: the class teacher, two student teachers, one teacher specialized in remedial teaching and one teacher who knows the language of some of the immigrant children in the group. This latter teacher talks to the immigrants in their own language and is trying to find out what help each one is likely to need in order to learn Swedish as soon as possible. The remedial teacher sits down with those who have already shown, at this early stage of their schooling, that they are in need of extra support. Some of the others are walking around, registering the progress of the children in order to be able to make a diagnosis of their status or offering the fast workers new material as they finish their tasks.

41. The 8-year olds are having maths. Some of them have moved out into the study area (in all 330 m^2 for the 7-9 year olds) in order to be able to work with bulky material at a large table. Now and then a teacher visits them, giving individual help or assembling the whole group in order to explain an especially difficult new facet of the unit. After this strenuous exercise they relax for a while before starting work anew. In the other half of the study area (another 330 m^2), the juniors, aged from 10 to 13, are working with various tasks belonging to a work unit titled WORK, a rather comprehensive and not very precise title. The specification is contained in subthemes, with which they have to deal at ten different stations in various parts of the study area.

42. Let us walk around to some of the stations. The station Intellectual work helps the pupils understand how human thought may be formulated into

programs which in turn may be put into computers, thus greatly reducing the burden of man's thought. At another station they have learned how machines have been invented to free man from heavy manual work. The processes are described on wall pictures and diagrams, the pupils see films and their comprehension is controlled on work sheets. At yet another station all the information is given on tapes - each child can listen to a tape spoken in his own mother toungue (this school has about one third immigrant children). Earphones are available for everyone and the pupils can be found listening to the tapes sitting at tables or resting on the carpet. The greater part of the day, the pupils at this school can choose their working position themselves, and this to a great extent is true also for the teachers.

43. Carpets cover all the study hall save the so-called wet area. There a group of students are occupied with science experiments, designed at elucidating the theme "Work to produce food". This theme is varied as "Work to prepare food" in a workshop where pupils are making cookies, at the same training the use of recipes. The workshop is a part of the studio. On each side of a central area for work with colour and form, workshops for wood, metal and textile work open up. A group is occupied with "Housing", employing varying kinds of material: plywood and more solid kinds of wood, foam rubber, paper, gum, fabricating models of houses for the past, the present and the future. In the open studio area, the furniture mainly consists of big tables standing free in the midst of the room. Some of the pupils in this area belong to the classes for mentally retarded children, which are integrated into Örtagårdsskolan. One of the objectives of this school is to try to draw these children into the project work.

44. The variations in tasks, modes of work, work material and positions when working seem nearly inexhaustible in this school. But there is still more to see. In an unfurnished room of large class-room size about thirty pupils are seated on the floor in a circle. In the midst of the circle two actors work at expressing "Understanding one another" as a human effort. They compete with one another: "I am better than you", tease one another: "This is my ball - you haven't got a ball". One of them gets angry, the other one desperate, crying. The other one to the pupils: "But I didn't mean this. I am fond of him. But I can't tell him that - or can I?" The children make suggestions, the actors are improvising, everybody is at work with the hard task of understanding one another and oneself and of expressing it. Here walls are needed - voices get loud, there is accompaniment on the flute and the drum, the action is very lively from actors and audience. But no furniture is needed and all stage-properties go into a sack.

45. Thus the facilities and areas of various kinds, which we have visited, serve the purpose of offering space for manifold experiences from the side of the children: through books and other printed material, through sound and pictures, through people, through discovery and creative activities, in drama and music. There is a conscious effort to overcome the traditional verbal dominance of the school, the more important as one third of the pupils have a mother tongue other than Swedish. There is careful and precise planning behind project work of the kind we have been watching. Teachers of varying training work and plan together, making it possible to vary the size of pupil groups, as teachers of immigrants and of special classes join with class teachers in planning and working, also using various aids and modes of work.

46. Flexibility in the use of space, flexibility in teaching and learning is a hallmark of Örtagårdsskolan of Malmö. But obviously there are contra-

dictions in the pedagogical model used there. The careful planning of the project work aims at individualizing according to pupils's interests - but does it allow enough for the spontaneous expressions of interest by the children? And doesn't planning demand an exorbitant amount of preparation by teachers? And is there place for any common planning by teachers and pupils together? Those responsible for the work at Örtagårdsskolan are fully aware that they are still at the beginning of developing their model of teaching. Project work takes about one week of the month - the rest is rather like traditional teaching. Project work aims at offering a basis of common experience to all pupils of one 3-year level of the school and this is why all should visit all stations - but they may spend more or less time at each, according to interest. Preparation takes a great deal of time for teachers - but they do it together and it would take more time for each teacher to work by himself. There are plans for a closer integration of project work and the training of skills, there are plans for breaking through the barriers between years and classes in skill training too and one hopes to engage the pupils in planning projects. There is still a long road ahead...

(5) The FÖL Project: a Description of Co-operation in Action

47. Swedish children do not start school until the age of seven, a late age internationally. Also, the preschool system has no long tradition in Sweden where, on the other hand, day care centres are well developed to receive from an early age the children of working parents. Where preschool classes do exist for 6-year olds, they work according to a tradition that is very different from that of the school. This confronts the child with a rather high but artificial barrier to surmount from preschool class to primary school - and has led to attempts being made to coordinate the educational efforts of the two institutions in question. The everyday work of the FÖL project, which has this as its main objective, is reflected in the following report.

48. Miss A, a primary school teacher, and Mrs. B, a preschool teacher, have for the last term been co-operating in various ways. They have exchanged information about and discussed the methods, content and material used in the two school levels. Miss A has been able to participate in the extensive educational activities pursued in the preschool, activities that she had previously known little about. Mrs. B now knows more about what awaits her preschool children when they start school and can prepare them for the transition more effectively than before. The teachers also make use of each other's experience and special knowledge on the occasions when the children work together. Just now Miss A is visiting Mrs. B in order to plan how they are to co-operate the following day. Miss A has noticed that some of the pupils in her class have difficulty in handling a pair of scissors and need to train their skill in cutting. It would be a help if they could practise in the preschool, where easily-handled scissors are available. The two teachers discuss what type of work might be suitable and which children need such training. In addition Anna, who has been even more restless than usual in school recently, might be helped by being able to choose what to do more freely than is possible in school. At the day nursery there are several children who are to start school next term and one boy who is past school age and who needs a little extra contact with the school before he starts because of social difficulties. It is desirable that this group should visit the school on the next occasion that the two levels co-operate. "Tomorrow morning would be a good time", says Miss A, "as we are going to work with counting rods at school." They agree that five children from each level should exchange.

49. The next day the preschool children are told that they are going to visit the school. They react very enthusiastically and those who are not going on this occasion are disappointed, but are reassured that it will be their turn another time. The schoolchildren have already arrived at the day nursery, where they feel at home after earlier visits, and are already climbing on the wall bars and sliding down the slide in the large playroom.

50. The preschool children find their own way to the school. It is on the other side of their outdoor playground, where children from school and preschool often play together.
At school all the children are waiting for their "guests" and greet them loudly when they arrive. They make immediate contact by saying "Peter, come and sit by me!", "Karin is going to sit by me today!" etc. Under Miss A's guidance, the children are soon co-operating over their tasks in mathematics with the help of the counting rods. The schoolchildren sometimes help the younger ones, but it also happens that help is given in the other direction. During a pause in the work, they play a musical game together and the day nursery children sing a newly-learnt song for the schoolchildren. At the end of the lesson there is just time to play a counting game in which figures and numbers are to be combined, one schoolchild and one preschoolchild work together in pairs. "Is it over already?" one day nursery child asks in disappointment when the school bell rang and it is time to run back to the day nursery. On the way back they meet the schoolchildren who have been to the day nursery and are now on their way back with stick-on pictures that they have cut out during their visit there. The children tell their teacher they have also been playing to music and with musical instruments. Karin even had time to make a boat at the carpentry bench. Everyone seems pleased with their visit.

51. The first time this kind of co-operation took place, however, the preschool children had been a little nervous of going to visit the school. There were so very many children there and a strict teacher, but now the preschool children have discovered that "school's not too bad" and are looking forward to when they start school "properly".

(6) Attempts at School Democracy at an Upper Secondary School

52. It is a common trait of all the development projects in the Malmö area that they aim at making the pupils increasingly responsible for their own learning and for the work of the whole school. But school democracy is no easy task, as is shown in this description of a confrontation between very independent secondary school pupils and school authorities, a confrontation studied and reported by research workers of the Malmö Department of Educational Research.

53. At Källängsskolan in Malmö, which is a 3-year secondary school, experiments with different forms of increased pupil influence on the forms of school work have been carried out since the school year 1968/69.

54. A larger number of representative bodies than is usual in Swedish schools has been created. Apart from staff meetings and what is known as a co-operation committee with representatives of different groups in the school, a library committee has been formed and a group for co-operation on general educational questions. The pupil representatives have been given the oppor-

tunity of continuously informing their classmates about the decisions made in lesson time.

55. An investigation carried out during the first year of these activities revealed a rather half-hearted interest among the pupil representatives in participating in the committee work, and their information to their classmates did not function very satisfactorily either. The reason given by the pupils for the lack of interest was that they had too little real influence in important questions, which were regulated by forces outside their own school, such as central curricula and directives, as well as by decisions made by the local board of education and other authorities.

56. An event that shed light on the opportunities the pupils have of asserting effective influence on the teaching if they are given the chance and that showed both the commitment that can then be created and also the subsequent difficulties that can arise was the "indoctrination campaign". This campaign had been planned by SECO (Sveriges Elevers Centralorganisation = The Central Organization of Swedish Pupils) and was intended to be conducted in secondary schools throughout the country. It followed in the wake of the wave of intense student activity that swept the world during the late 1960s. The central committee of SECO saw it as its task to make the pupils aware of the function of schools and textbooks in indoctrinating the pupils to accept the existing structures of society. They were given a week in which they were allowed to present totally pupil-oriented activities, such as general meetings to which representatives of different branches of society were invited. A list of questions for discussion in class had been drawn up in the hope of creating a more critical attitude towards textbooks and the content of the teaching. The idea was also that proposals for changes in the school should be put forward in order to influence the conditions in the school.

57. At Källängsskolan the week was introduced with a play about the school of a rather provocative nature, intended to clear the way for a discussion between teachers and pupils. When accepting the campaign the school leaders had laid down as a condition that the work in the classes should be carried out solely with the help of the school's own resources. This had not been respected by the leaders of the campaign, as university students with clear political commitments had been invited to lead the discussions. This, together with the fact that the placards and other material produced by the central campaign management were considered by many pupils to have a distinct political bias, resulted in a so-called counter-group being formed among the pupils.

58. The week was completed with a full day of discussions at general meetings, in which representatives of the school leaders, the Malmö School of Education and the University of Lund were invited to participate. At the end of the day a resolution was adopted. After a very hard debate, the counter-group also joined in the passing of the resolution. This resolution was worded as follows:

59. Resolution passed after final day of discussion

This is an attempt to sum up the points of view that have emerged during the discussions at Källängsskolan on 21st November 1969.

1. Marks

We demand a discussion of the marking system, because of the following criticisms that have been made of the present system:

a. The marks create a competitive situation which makes co-operation and solidarity between pupils difficult.
b. The marks create a gulf between teachers and pupils.
c. The marks lead to a fight for points that overshadows the interest for the subject.

2. Text-books and curricula

We demand that

a. The study material should devote more space to different opinions.
b. The source material should to a greater extent be rendered as an account.
c. The curricula and study material should be subjected to further penetration on a central and local level.

3. The relationship between teacher and pupils

There is an unnatural antagonism between teachers and pupils which must be overcome. It arises above all because of the marking system. The antagonism makes it difficult for both teachers and pupils to enjoy the degree of freedom of speech that would be desirable.

4. School democracy

The school is our place of work. Therefore we demand that

a. All those working in the school should have an equal opportunity to participate in decisions.
b. This right to participate should apply to all school levels.
c. We are given full insight into all questions and decisions that affect our situation.

60. The final outcome of the campaign was a polarization among the pupils and partly among the teachers. The antagonism between radical and conservative groups among the pupils had for a time a paralysing effect on the work of the pupils' council. Many pupils, however, gained a positive impression of the possibilities for the pupils to influence their school situation and an increased will to do so in various contexts. Some of the exaggeration and one-sidedness of the pupils' planning made the teachers and school leaders less inclined to allow the pupils to take charge of more extensive units of study. This type of campaign, in which for a short time one theme is allowed to dominate almost all the activity in the school and the pupils are allowed to participate in the shaping of it, has since become more common, however.

61. The attempt to increase the degree of school democracy at Källängsskolan has shed light upon the constant dilemma that arises in such experiments. If the pupils' influence is too restricted and formal, it does not succeed in motivating the pupils and changing the usual passive attitude to one of responsibility and co-influence. If, on the other hand, the pupils are given a great deal of freedom in influencing their own situation at school, the contradictions in a modern industrialized society can give rise to activities that create conflict within their own ranks.

CHAPTER III

THE EMERGENCE OF NEW PATTERNS - DEVELOPMENT AND RESEARCH PROJCETS

(1) Introduction: Organization and Problem Areas

62. Development and research work in the Malmö area never formed one consolidated and systematic effort with closely defined objectives. To find out what happened, even in a relatively limited area, such as the emergence of new patterns of teacher tasks, one has to study various development and research projects, mainly carried out within two different organizational frames, the Educational Development Centre of the Malmö City Board of Education (the EDC, after 1971 called the Malmö Region Educational Development Activities or MED) and the Department of Educational and Psychological Research of the Malmö School of Education (the DER). The points of departure for these projects, which were initiated and took shape during a decade as from 1964, varied. Those which interest us here all had as their main objective the finding of "practicable ways of putting into effect the intentions of the educational reforms proposed or already decided", to quote again the words of the Minister of Education in 1964 (cf above p. 2). Through the work done in these various projects, new patterns of teacher tasks emerged, in some ways as a bye-product but still as a major presupposition for the realization of the stated objective. In this chapter, in order to see how this happened, we shall study somewhat more closely some projects, or rather, groups of projects.

63. As an introduction, short outlines will be given of the major concerns of the two organizations EDC (later MED) and DER. However, in the further descriptions of the groups of projects we shall not maintain the distinction between projects belonging to one organization or the other. They each deal with one problem area, which is approached in various ways and it is the outcome as concerns patterns of teacher tasks which interests us, not the organization of the projects as such. Further, projects having their origin in development work in the field often grew into or were accompanied by systematic research projects. For this reason, also the distinction between projects belonging to one institution or the other would be artificial for our purposes.

64. The main problem areas which are of special importance for the emergence of new patterns of teacher tasks are the following:

A. Changing subject content and structure - the emergence of a new pedagogical organization.

B. The construction of individualized teaching material.

C. Integrating handicapped children.

D. Finding out implications for school building.

E. Joining pre-school and primary school.

F. Finding new modes of school democracy.

(2) Concerns of the Education Development Centre

65. The programme for the very first working year of the EDC contained the following objectives (cf IMTEC 2, p. 347):

- testing possibilities of training all pupils in working techniques and working attitude ("education in study") in a gradually evolving vertical programme,

- discovering at admission and during the school career ancillary means of ensuring that as many pupils as possible can remain and be taught in ordinary classes (as distinct from arrangements on the lines of special classes),

- by means of experiments in co-operation and team teaching and by varying the size of the learning group and the work patterns at different levels and in different subjects

    - finding and promoting ways of combining individualized teaching and social education;

    - developing different forms of self-instruction for pupils - both formative and creative,

    - discovering ways of rationalizing work patterns in schools, inter alia by employing various kinds of personnel with no specifically pedagogical training to assist teachers;

- seeking ways of establishing a central bank for teaching material in the broadest sense of the term, and school premises in which instruction on the lines indicated above can be given,

- testing new subject matter, methods and material.

66. Thus, from the very beginning, team work of teachers, co-operation transcending limitations of class units, subjects and levels was emphasized. Also, very often the production of teaching material originated in and/or presupposed the work of teacher teams. Also the realization of the first objective cited above, the evolvement of a vertical programme for what may be called "education in study" presupposed the co-operation of teachers of different school levels and teaching subjects.

67. Gradually, some of the originally initiated projects have been completed, whereas others have been started. However, the work of the EDC has followed a continuous line, so that very often, one project has followed on the work of another, though approaching the problem from a different angle or with different methods.

68. This was true also when, for administrative reasons, in 1971 the EDC gave way to the MED. The new organization of MED also entails a closer co-operation between the development activities of the Malmö City Board of Education and the research and development activities of the Department of Educational Research of the School of Education. The present programme of the MED contains seven different problem areas, of which those of The flexible use of resources and Pastoral care of pupils are of

special relevance to the change in teaching patterns. In general, it is stated as a major objective for the work of MED to contribute to the growth, in school personnel, in pupils and parents, of a preparedness for change - a change which will all the time demand renewal but also entails a critical examination of the school and its rôle in the society of today and tomorrow.

69. Such development and research projects as VGL, LISS, LINS, School environment as will be described below, all have their origin in experiments in co-operation which, for the grundskola, started in 1964, for the gymnasieskola even earlier. Team teaching and cross-disciplinary co-operation was started within the curricular frame indicated by the Lgr 62 and in school buildings of a traditional type. Today, these modes of work find special possibilities of expression in open plan schools. However, MED has not lost interest in the development of co-operation and team teaching in traditional school buildings. In some of these, certain modifications in the building have contributed to creating better conditions for team teaching and cross-disciplinary co-operation of teachers.

(3) Research and Development Programme of the Department of Educational Research

70. Research projects carried out at the Department of Educational and Psychological Research of the Malmö School of Education are financed by the National Board of Education, which also decides which proposed research projects submitted by the local department will be financed through national funds.

71. The major part of the projects are concerned with an analysis of general problems within Swedish school development and could have been based at any other educational research institute in Sweden, although possibly the fact that this analysis has been carried out in a region with a very intense educational discussion and experimentation has had some influence. However, another group of projects relate directly to development work carried out in Malmö and its neighbourhood in close co-operation with local and regional education authorities. As has been stressed above, the main aim of this development work has been, and is, to find practicable ways of implementing the current school reform. Certainly, these projects, too, might have been carried out in other places. However, the fact that Malmö has gone through an unusually long period of development activities in the field of educational organization, teaching material, school building and other factors which may influence patterns of teacher tasks has made it possible to study the related problems more thoroughly that in most places in Sweden.

72. The research work in the Department of Educational and Psychological Research is grouped in four different sections.

1. Subject-matter oriented research

2. Teacher oriented research

3. Pupil oriented research

4. Organisational and environment oriented research.

In each one of these four sections the projects of specific relevance for the teacher's tasks are more thoroughly presented here.

73. Of the subject matter oriented projects the IMU-project (Individualized mathematics teaching) has been chosen as an example of the development of a method-material system primarily aimed at individualizing the studies of the pupils but also having wide implication for the organisation and work of the teachers.

Of the teacher oriented projects the PIL-project (Pedagogics in teacher training) is of special interest because of analysis made of teachers' functions. These analyses are referred to in chapter IV in this paper.

Of the pupil oriented projects, Student democracy - co-planning at different levels of the school has been chosen because of the stress put on this in the new curricula both in Sweden and in other countries. This project is mainly of an analytical character and the activities studied are not very different from what has been going on in other parts of Sweden.

74. The organizational environmental oriented projects are for different reasons given most attention here. These projects have all been developed in close co-operation with the municipal development presented above p. 8. The activities include attempts to change the pattern of work of the teachers to a very high degree and what is going on is in many respects different from the situation in most other schools in Sweden. They are also internationally noticed. The projects we deal with here are:

The FÖL-project (Co-operation between pre-school and primary school)

The VGT-project (Team teaching and flexible grouping)

75. There is also a group of three projects, called the School environment projects, studying the interplay between new types of building and study material and the inner work of the school. These three are:

The LISS-project (Curriculum development in open plan schools)

The LINS-project (Study material in new schools)

The LOFS-project (Building for school and leisure time)

76. In the following section, projects within each of the six problem areas mentioned above (p. 9), will be outlined as to objectives, procedure and results, all necessarily in skeleton form. For each problem area or group of projects an attempt will be made to point out the main consequences for the patterns of teacher tasks.

77. These lists of consequences are derived from two main sources. Primarily, they draw on published evaluative reports on the various development and research projects. Secondly, the findings summarized in reports are supplemented through experience gained by people who have been personally engaged in the work. Then in chapter IV, general consequences will be drawn as to the emerging patterns of teacher tasks. The argument in that chapter will be based on the more specific consequences drawn from the various projects and outlined in chapter III.

A. The Emergence of a new Pedagogical organization

(1) Co-operation

78. On the junior and middle levels of the compulsory school, team-teaching and flexible teaching have been part of the development work since 1964, but, for natural reasons, have not gained much ground until the building of the new schools started.

79. On the senior level the need for co-operation between teachers was perhaps greatest in the curriculum valid in 1964 (Lgr 62). There existed comparatively modest experiences from a compulsory 9-year school with a subject teacher system. Many teachers had experience from the parallel school system i.e. primary school (folkskola) and junior secondary school (realskola), where classes were homogeneous. Others were recently trained. Certified teachers from the lower levels had often received further training to be qualified for teaching at the senior level.

80. On the senior level the subjects were numerous and the offer of options extensive, which led to a very complex organization and a very split school-day for the pupils. Thus, the need for co-operation was great. This also led to an increasing interest among the schools to participate in the development work concerning co-operation problems on the senior level. Four main phases are distinguishable:

1) Co-operation experiments 1964-66.

2) Pedagogical-organizational experiments (PEDO) 1967-69

3) Curriculum development (LUMO) 1970-73

4) Flexible use of personnel resources at school (PRIS)

Co-operation experiments have also been carried out on the secondary level, which however is treated separately.

(a) Co-operation activities 1964-66

81. At three schools the work during the first year reached so far as to give material for a general report. The teachers of social orientation subjects at one school co-operated during a period in the study project "EFTA and EEC". At another school the natural sciences teachers together based a study project on the theme "The Car", and at a third the teachers of social orientation subjects concentrated their collaboration in the two fields of interest "China" and "Neighbour-hood". These three schools had several problem in common: teaching materials, time-tables and premises. The co-operation within the new teacher-teams was built up around these questions. Soon they became aware of the defects of the existing teaching materials when it came to co-ordination of subjects and activity-pedagogy. Thus, the teachers had to produce their own materials both to complement existing ones, to co-ordinate them and to make them more fit for independent pupil work. Special allowances also enabled purchases of complementary books, newspapers, slides, maps etc.

82. From the very beginning it was clear that co-operation in teacher-teams meant that lots of problems had to be solved. The greater amount of work that co-operation brought about was compensated, however, by the enthusiasm seemingly shown by the pupils. Whether the pupils' interest was due to the change they had experienced or to the active way of working could

not of course be determined. A great part of the positive pupil attitudes was regarded by the teachers as an effect of the actual co-ordination work which gave the teaching-matter a better structure. It has probably also meant a great deal to the pupils to have seen the teachers co-operate.

83. Since words like co-operation, co-ordination and integration are used with varying sense we agreed on the following definitions:

Co-operation
. Co-operation is an overlapping term comprising all forms of activities with the purpose of utilizing functional connections between subjects.

Parallel-teaching
. At planning conferences or the like the teachers can take a further step towards co-ordination by so called parallel teaching. The planning is done so that similar teaching-matter can be treated simultaneously in different subjects.

Liaison of teaching-matter
. Parallel teaching can be used for liaison of teaching-matter i. e. the teaching is organized in such a way as to enable teachers and pupils to make an active use of similarities and connections between subjects.

Integration
. The term integration, in our opinion, should be reserved for a form of co-operation so far reaching, that the dividing-lines between subjects are completely erased.

Study project
. Study project means a functional unit within a subject or a unit created through co-operation between several subjects. Examples of study projects: Africa, the Soviet Union, the Neighbour-hood.

(b) Pedagogical-Organizational experiments (PEDO) 1967-69

84. By and by a new model was developed for work at the senior level. This model was entitled PEDO which means Pedagogical-Organizational experiments and which implied the testing of an organization with working units of two-three classes (60-90 pupils), continuous working periods and teacher-teams. This model would form a solid frame-work for further development of the collaboration and would also give more favourable conditions for flexibility and, as a consequence, more individualized instruction. The National Board of Education wanted to test the model both in Malmö, with prior experience, and in Skellefteå and some other municipalities, in order to get additional experiences as a basis for a revision of the curriculum. The teaching-matter was structured in study projects, which could be either subject-related (from only one subject) or combined (from several subjects within either the natural or the social sciences sector) or what was called overlapping (from both sectors above). Different models were drawn for the building up of these study projects. One aim was to give more room for the pupils' own activities, individually or in groups. This was to be attained by making the basic course, common for all, as small as possible. Thereby, room was given for a wider special course, enabling the pupils to choose their own tasks. The teachers worked in teams, planning the work as much

as possible in co-operation with pupils and to a certain extent with parents. Co-operation with teachers' assistants was further developed. The experiments with team-teaching and study projects under the heading PEDO extended over the period 1967-69. The revised curriculum (Lgr 69) was then taken into use, starting in grade 7. Its directives correspond very well to the method of work practised at the experimental schools. Thus, it can be said that the PEDO work has greatly influenced the new curriculum.

(c) PEDO becomes LUMO

85. The schools taking part in PEDO wanted to follow up their work more systematically according to the new curriculum. The term PEDO was replaced by LUMO meaning Curriculum Development within the Malmö region for orientation subjects. During the first year of the new curriculum and inventory was made of problem areas important for continued experiment work. A working group for LUMO was started with representatives for the participating schools. The main task for the group was to establish contacts between the schools and to provide them with certain services. The main areas so far attended to are:

a) Utilization of resource-time

b) Teacher-teams and pupil welfare

c) Individualization and student participation

d) Remedial teacher in the team

e) Contacts between levels

f) Freely chosen study projects

86. The first two aspects will be treated in the following section:

a) Utilization of resource-time

One of the biggest innovations in Lgr 69 was the introduction of resource-time and resourse-hours. In Malmö, teachers' assistants were employed and some teaching materials were bought for the 20 % of the resource-time, that was the stipulated limit for that particular purpose. There was also the possibility of putting some of the resource-time into a "time-bank" to be used for guest-lecturers, extra work due to study-visits etc. The greatest part of the resource-time in the orientation subject area amounting to three hours per week and class must however be distributed among the teachers. At some schools this distribution was made for a week at a time which meant that some teachers' attendance varied considerably from one week to another

87. b) The teacher-team as a basis for the pupil welfare-work

Adjoining the Malmö School of Education there is a special school-unit for experimental and demonstrative activities. At one of these schools the teacher-team in social orientation subjects has been given a special function as to pupil welfare during the last few years. The teacher-team meets every fortnight with experts on pupil welfare. At these conferences they decide upon which measures to take on the basis of observations made by members of the teacher-team.

88. The following advantages of the project have been reported.

1. The gap between teachers and experts on pupil welfare has diminished considerably. A seemingly hard-to-penetrate bureaucratic apparatus has quickly been broken down. The interval between decision and action has shortened.

2. The welfare work has become an integral part of education.

3. The resource-hours have been directed to where they are best needed.

4. The exchange of information has in a positive way influenced attitudes towards problem pupils and has increased the willingness to alter the the situation of the pupils.

5. The fixed teacher-team conference dealing with pupil welfare constitutes a natural meeting-point for welfare-officers, psychologists, parents and teachers.

(d) Flexible use of personnel resources at school (PRIS)

89. In 1971 a Government Commission was appointed with the task of investigating the internal school work. The Commission is studying the effects of greater liberty for the individual school in administrating its teacher-resources. In addition to the so-called resource-hours the school also has a freer use of remedial teaching than other schools. Two of Malmö's former PEDO-schools are taking part in this project. The main purpose of the investigation is to illuminate the administrative-technical aspect of the school resources. In Malmö it is considered important also to evaluate attitudes and educational effects. Such an evaluation was started in 1972/73. The teacher resources, which by the curriculum and by the Education act are fixed for certain purposes, are now freely, but differently, utilized at the two schools. One of the schools has distributed evenly all available teacher resources in order to form basic groups of some 18 pupils instead of classes of 30. The system is fixed for an entire school year and does not allow flexibility. However, by uniting basic groups flexible pupil-groupings can be obtained. The other school works with a "time-bank" to be distributed successively. Both schools have so far given almost solely positive reports on the effects.

(e) The upper secondary school

90. On the upper secondary level team-teaching has been used in different lines during the last 10 years. The longest experience is to be found at one school, where co-operation among teachers in the social studies subjects and in Swedish was organized even before a development block was established.

91. In the school year 1966/67 team-teaching had gone so far as to venture upon a reorganisation of the teachers' work, thus releasing funds for the employment of an assistant and typist. Three classes with 90 pupils in all were looked upon as a teaching unit and the work was planned and carried out exclusively by teacher-teams in nine different subjects. These nine subjects were so con-

centrated on the time-table that all the lessons formed a continuous period either in the morning or in the afternoon. Thus, opportunities were given for work in flexible groupings and for varying teaching methods. The preparatory work of both pupils and teachers was concentrated to one session a week for each subject. The teachers reported after the first year that the method brought great advantages but also meant quite a revolution of teaching and learning habits. Therefore both teachers and pupils needed time for adjustment. There were difficulties, above all in mathematics and modern languages. This was probably due to the fact that at the school those subjects had never been taught in team-teaching and flexible groupings. There was a lack of adequate teaching materials. All the participating teachers expressed a positive opinion of team-teaching but emphasized that lots of problems remained to be solved and that much time-consuming work was needed before a teacher-team could function satisfactorily. Gradually the work in the small group (4-8 pupils) would play an increasingly important part. Both teachers and pupils have been critical towards the feeling of anonymity that the VGL-method easily causes. The form master has reported great difficulties in keeping a continuous contact with all the pupils in the form, as the class often works split up in smaller groups or together with other classes. The teachers' assistant has taken over a great deal of the checking and registration work, which is a part of pupil welfare work.

92. There have been experiments at other schools too. At one school many pupils have critisized the method because the results of a great deal of group work or individual tasks have not been reported in front of the large group for want of time. Some pupils feel lost because the teachers have not had enough time to tutor all the groups sufficiently. The feeling of anonymity has been considerable.
At one upper secondary school with practical vocational lines much experience of the VGT-method has been gained during the existence of the development centre. One teacher team in motor technology has collaborated in lesson-planning and in pupil welfare. By flexible groupings in the subject of Swedish, another team has integrated Swedish with vocational practice and directed the work on the basis of the pupils' practical training.

93. A third team, in the field of administrative Automatic Data Processing, has for many years worked with higher teacher density in essential parts of the training and work with individual pupils or small groups outside the time-table. This school has reported mostly positive experiences from the VGT-organization

(2) The VGT-project (Flexible grouping and team teaching. The Research.

94. Experiments to find new patterns for co-operation between teachers and a new structure in the content of the studies have played an important part in the work of the Education Development Centre in Malmö during the sixties. At the same time, new forms of grouping the pupils to fulfill different aims in the school work have been developed (cf p. 22 and 24). Towards the end of the decade it became evident that the problems of team teaching and related new ways of organizing the work in the schools would come to play an important part in the curricula for all schools in Sweden and consequently the National Board of Education felt that more thorough studies were needed. After a year of planning, money was in 1969/70 given to the School of Education for a project on VGT that was planned to continue until 1973.

95. The first two years of the project were mainley devoted to a broad, general study of attitudes among teachers and pupils in two experiment schools at the upper secondary level and in a couple of schools at the upper level of the grundskola, with different aspects of a flexible organization of the school work inside the so-called PEDO-project. During two years, 1971-1973, a comparative study of the application of the new curriculum for the grundskola, Lgr 69, has been made in 8 schools with different organization and building design. These schools have been ranged along a continuum from organizational stability to flexibility. Three schools which had not earlier taken part in organizatorical-educational experiments were placed at the extremity of the stability side, three PEDO-schools which had taken part in the experiments preparing Lgr 69 became a middle group, and two open plan schools specially designed to facilitate a flexible organization formed the extreme of the flexible side.

96. Through interviews, questionnaires and systematic observations the organization and schoolwork in the different schools have been explored. The development of the pupils in different respects has also been studied with comprehensive battery of instruments. This comparative study was only recently computed in the summer 1973 and the results have not yet been published.

97. But some data already analysed illustrate the difficulty in realizing a flexible organization in a short time and on a broad scale. The three schools investigated which from the beginning tried to introduce some of the recommendations made in the Lgr 69 without a prior experimentation period, have all successively gone back to more traditional ways of organizing the studies. This is especially noticable in the case of attempts through team teaching to organize integrated units of studies and to concentrate the studies of the pupils in general subjects to two or three hours at a time. Now the study of single subjects for only 40 minutes at a time is again rather common.

98. Many schools which have had assistants for years have therefore let them disappear, going back to a more traditional way of organizing the teachers' work. This is connected with an increasing surplus of teachers during the last few years. We find here the same tension as we have found in experimentation with the IMU system between the wish to professionalize the functions of the teachers at the individual schools and solidarity with the teacher collective as a whole. The tendency now among many teachers is to try to prevent other categories from being involved in the teaching process.

(3) Specific consequences for teachers' tasks

99. Co-operation experiments

This title covers subject co-ordination, VGT, PEDO, LUMO and PRIS.

1. Regrouping of tasks and responsibilities (co-operation, shared responsibility)

2. Strong demands for co-planning: new planning routines - sometimes time-consuming.

3. Restructuring of traditional subject divisions, partly in order to make school-work more meaningful and interesting.

4. Better use of specialist knowledge: as a consequence, demands for broader subject knowledge (i.e. to avoid dependence on teaching materials).

5. Attitudes of "one's own domaine" must successively be replaced by collaboration - for practical and ideological reasons.

6. New teacher - pupil relations (new groupings, increased possibilities of individualization, school democracy).

7. Acceptance of new staff categories at school.

8. Acceptance of varying working hours (the time-tables for one year are replaced by periodical or weekly ones).

9. New and varying requirements as to teaching materials.

10. New demands on the physical school environment (both flexibility and adaptability on the part of fittings, machinery and premises).

11. There is a tendency towards depopulation of the staff room.

B. Constructing Individualized Teaching Material: The IMU-project (Individualized mathematics teaching)

(1) The Project

100. The internationally most well known of all Swedish research and development projects is perhaps the IMU project. It has produced a method-material system for individualized mathematics teaching, for the whole upper level of the grundskola (classes 7-9). It is probably one of the biggest and most ambitious and also most expensive projects in the world for producing study material.

101. The projects originated in experiments carried out in a small country district in the south of Sweden around the year 1960. At that time a strong need was felt all over the country for self-instructional individualizing material in mathematics. A shortage of teachers in mathematics and the idea that pupils with different ability and interests should be allowed to study in the same classes without being differentiated in the two normally existing courses, were from the beginning the main reasons for the interest. Hermods, a company with a long tradition in making correspondence courses, was engaged in producing such material. The principle of individualization was heavily stressed in the new 1962 curriculum for the 9 year grundskola. The desire of the central school authorities to make education both cheaper and more effective than before, contributed to the interest for the new ideas.

102. When a research project at the School of Education in Malmö was started the year 1964/65 it was therefore constructed as a combination of experimentation with new material and methods of study and different organizational models for using the staff and grouping the pupils. On page 10 is described how the material has been used in a "three class" organization with two teachers and a teacher assistant. The development of material and experimentation with different organizational models for the use of teachers and assistants was followed up with an extensive study of the effects during the years 1968-71. About 12,000 pupils, 400 teachers and assistants in 81 different schools all over the country took part in this investigation.

103. Several different models for the organization of the use of the staff and the grouping of the pupils have been investigated. About 60 % of the classes have been organized in "large groups" of two or three classes working together. The most common model has been the three-class one with 80-90 pupils, two teachers and a teacher assistant or two and a half teachers and an assistant, which is described on pages 9-11. The word "large groups" has sometimes been misunderstood. These "large groups" have been located in different ways Only very seldom have they been in one large room. Generally they have been placed in different classrooms with open doors or some other form of communication for the staff.

104. The "one class model" with one teacher working alone in one class without an assistant became more usual towards the end of the experimentation period.

105. The following results from the study of effects are those that are most worth mentioning here. The attitudes from both teachers and pupils towards the material has been rather positive compared with those using other material. Results in schools using different organizational modes have on the whole been the same. No clear tendency could be found. Those finding the material most difficult to work with have been the low-achieving pupils. The teacher assistants have on the whole been more positive to the use of the IMU-material than the teachers. The assistants have declared that they have found both their administrative tasks and their contact with the teachers and pupils stimulating.

106. Now when the experimentation period is over and the results from the research studies are on the whole so positive that the system could be spread all over the country, the shortage of teachers has been abolished, and the general attitude towards individualization was also changed in favour of what are considered more socially developing methods and organization.

107. The IMU system has been of great importance for the discussion in Sweden about teaching methods and organization. It has given a deeper understanding of the need for balance between individual work, group work and collective work. It has pointed out new possibilities of using the space available grouping the pupils and organizing the work of the staff.

(2) Specific Consequences for Teacher Tasks

108. The consequences for teachers' tasks are summarized under three main headings, one general and two relating to different organizational models.

1. Changes independent of organization and of extent of teacher assistance
   - . 1 Increased individual pupil-contacts
   - . 2 More and different forms of planning and organization
   - . 3 Increased restriction to methodological directions
   - . 4 Less contact with the whole class
   - . 5 Less speech (oral presentation of facts)
   - . 6 Fewer routine exercises

2. VGT-organization with teachers' assistant

. 1 More collaboration with colleagues and other personnel

. 2 More time for individual tutoring

. 3 Increased possibilities of teaching in small groups

. 4 Less routine work

3. A class organization without teachers' assistant

. 1 More routine work

. 2 More diagnostic and evaluating activities.

C. Integrating handicapped children: Remedial teaching in clinics instead of special classes

(1) The R and D work

109. In Sweden most children have in the past been given a rather short school maturity test some months before they have started their first school year. On the basis of these school maturity tests, some children with low points have been separated in small "school maturity classes" where they have had to stay for one, two or three years. Research on the school maturity tests has shown that it is very difficult on the basis of the tests to make sound judgements about separating pupils in that way from their comrades for a long time. The idea that it is desirable for social reasons to integrate different sorts of handicapped children with normal children has also become increasingly widespread in Sweden during the sixties.

110. In 1965 experiments with so-called clinics for individual help of pupils in the lower level of the grundskola was started in Malmö on a limited scale inside the Educational Development Centre. Pupils who needed help of some kind in reading, writing or mathematics were allowed to leave their classes to visit a clinic for a few hours and stay the rest of the time in the ordinary class. A comparative study was made of three groups of pupils comparing different kinds of results. One group consisted of children in school maturity classes, the second of children who were given help in clinics, and the third of children with the same marks in the school maturity test but placed in normal classes without special help outside the class.

111. Briefly the results of the investigation showed that the cognitive skills were favoured by visits in clinics, but there was a tendency for the children in the small school maturity classes to show better social adjustment and to be less anxious than comparable pupils in the other two groups. The results from the Malmö investigations played an important rôle, when central directives for co-ordinated remedial teaching were drawn up in the new Curriculum Lgr 69. They recommended clinic teaching and companion teaching, with a remedial teacher working directly in the classes, as the main forms of remedial teaching at the expense of remedial classes, which were assumed to become less common. The design of the open plan schools was also affected to some extent by the desire to facilitate direct co-operation between remedial teachers and ordinary teachers in the teaching.

(2) Specific consequences for Teacher Tasks

112.
1. Distribution of responsibilities and tasks is developed (shared responsibilities)
2. Increase of class teachers' planning time
3. Increased demand for collaboration with other teachers
4. Greater responsibility for pupil welfare (broadened field of responsibility)
5. Continuous diagnostics instead of a few definite decisions
6. Stronger demands for broader knowledge
7. Greater knowledge of teaching-materials
8. The special teacher gets more teachers and more pupils to work with a larger contact area may lead to still more contacts.

D. Implications for school building: SAMSKAP and the School Environment Projects

(1) Samskap schools

113. During the experimentation with team teaching and flexible grouping and integration of subjects, the traditional organization of space and placing of material was often felt to be a restrictive factor. (P. 21) In 1967 a regional organization for the building of schools was introduced in the Malmö region, at first primarily for economical reasons. A deliberate attempt was made to combine these efforts to build cheaper schools on a bigger scale with a school design which took into consideration the experiences of the experiments conducted inside the Education Development Centre (EDC). Close co-operation was also maintained with corresponding development work in other countries particulary the USA, England, Norway and Denmark. This school building organization received the name SAMSKAP (from the Swedish "Samverkan mellan Sydvästskånska kommuner, arkitekter och pedagoger" - Cooperation between municipalities, architects and educationalists in south west Skåne).

114. The principles for building the Samskap schools has been summarized as follows:

1. Variability, both flexibility in the present day situation and the possibility of changing the schools at little cost in the future.
2. Facilitating integration of different social functions in the local community, such as hobby and spare time activities.
3. Facilitating varied pupil activities.
4. Facilitating varying pupil grouping.
5. Facilitating team work between staff members.
6. Facilitating subject co-operation.

7. Facilitating varied choice of media by collecting it as close to the study areas as possible.

8. Facilitating integration of remedial teaching.

115. The actual design of the schools on the basis of these principles can very briefly be summarized thus:

The total area is the same as in the traditional schools in Sweden. But the areas available, according to the norms established by the County Board of Education, are arranged differently.

The central area is a study hall, in which different kinds of study material are directly available to teachers and pupils, for use either in the study hall or in adjoining smaller rooms.

The study hall has been gained by putting together waht are known as the supplementary areas in the school, that is to say the book rooms and group rooms. A certain amount of space otherwise used for classrooms/subject rooms has also been added. Therefore it is not always that classrooms or other smaller rooms can be available for the teaching. The study hall is equipped for active pupil work in groups of different sizes.

A room for giving information to larger groups, as a rule for a whole grade, 90-150 pupils, well soundproofed and well equipped with AV-aids is also provided.

In the upper level schools the rooms for the different subject groups are as far as possible put together in blocks adjoining the study hall and if possible also the information hall. Thus there will be a Natural science block, a General Subjects block, a block for esthetic practical subjects and so on. Smaller rooms of between 15-25 m^2 can be used for remedial teaching, discussion in smaller groups, groups work and language teaching, among other things.

116. Schools premises designed as described above greatly change the working situation for both teachers and pupils. Many of the recommendations in the new curriculum for the grundskola concerning team work and varied pupil groupings which the teachers can only to a limited extent achieve in traditional school buildings become through the disposition of the space a necessity in these schools. For this reason many teachers and parents soon began to distrust what the new development would imply in the form of changed working conditions in the new schools, particulary as such a large number of schools were to be built during a short period of time. In the lower school levels a slogan was introduced that there ought to be a classroom for each class and that the use of study hall should not be scheduled.

117. It was obvious at a very early stage that many essential questions concerning the effects of this new design of the schools were unknown factors. Therefore, in 1970 scientific investigations were started. These investigations have with grants both from the National Board of Education and the Malmö Board of Education developed into a group of projects called the School Environment Projects, presented on pages 31-34.

(2) Curriculum Development in Samskap schools

118. Studies specially concentrated upon problems related to the work in the new type of open plan schools were in 1970 constituted as a special project, Curriculum development in Samskap schools (LISS - from the Swedish Läroplansutveckling i Samskapsskolor). It is conducted inside MED in close co-operation with the leaders of the development work in the City Board of Education in Malmö and the School of Education. The research work is of an inter-

disciplinary character, and co-operation has been established with the Department of Functional Building Theory at the Lund Institute of Technology.

119. The main aim of the study of the Samskap schools is to investigate to what degree it is possible in this type of school to fulfill the intentions of the new curriculum Lgr 69. In the spring 1970 a limited exploratory study was made of how teachers and pupils reacted to working in an open plan school, the lower and intermediate levels (grades 1-6) of Värner Rydén-skolan (af Klercker, 1970). During the school year 1970-71 a study was made at eight schools, of which six had only lower and intermediate levels, one had all nine grades and one only the upper level (7-9). These studies were still mainly exploratory and concerned with the development of research methods.

120. These studies showed that the great majority of the members of the staff found that the design of the buildings contributed to more positive co-operation and that the schools on the whole were functioning in a way that was in line with the intentions of the new curriculum. At the same time there were observations that supported thoughts expressed by teacher and parent representatives outside the schools, that the extreme openness caused problems when it came to taking care of some groups of pupils with special disadvantages in behaviour or ability.

121. A paper expressing criticism of this kind had been issued by the teacher organizations in Malmö.

122. One result of the debate following the reports of the LISS-project was that the polarization of attitudes towards the Samskap schools, with different points of view both about how schools should be built and how the work of the schools should be organized, was diminished. The general principles and features of the new room arrangements seem to have been accepted surprisingly quickly by all parties concerned. The debate was then concentrated upon more specific questions concerning how a balance between partly conflicting demands made on buildings and organization should be reached. Economic, educational and social-psychological points of view must be weighed together in a way that makes it difficult to have a definite opinion on the right proportion of closed and open accommodation for different school levels.

123. During the school year 1972-73, further studies have been started in the lower and intermediate levels in order to compare the effects on the development of the pupils of different room arrangements, both in cognitive skills and socio-emotional respects. During 1973-74 the results from these studies and from the then completed VGT-studies in the upper level should provide new material for the debate on the best arrangement of school premises and its consequences for the pattern of teacher tasks.

124. Of special interest for the discussion of new patterns of teacher tasks have been systematic observations made in four of the open plan schools. A general result from these observations is that even in the intermediate level of the grundskola independent work on the part of the pupils and teacher tasks of a more advisory nature play a larger part than has previously been noted in most investigations in other schools in Sweden.

125. It is also evident that the activity in the open areas on the whole has been of another character than that in the closed rooms. That has also been the intention in designing the schools with both open and closed areas. In the open areas silent reading and writing have dominated and verbal interplay between teachers and pupils has played a very little rôle.

(3) The LINS-project (Teaching aids in new schools)

126. The main aim for the project LINS (Teaching aids in new schools) is to facilitate rational acquisition and placing of teaching aids. Through this project a model has been developed for analysis of the activities in the schools, specially concentrated upon such activities which are stressed in the new curriculum Lgr 69. Descriptions are made of teacher and pupil activities, media and premises. A special administrative model of decision is created on the basis of these analyses.

127. Some schools in different parts of Sweden have as a part of the project been equipped according to the model, and the National Board of Education is disseminating the idea of the model through special workshops and summer courses. An analysis of teacher activities inside the LINS-project is used to make teachers more aware of the interplay between organization, content, aims, study material and the space where the work has to be done.

128. Preliminary reports from schools working with the questionnaires for analysis support the idea that in this way it is possible to train teachers to change their pattern of work.

(4) The LOFS-project (Buildings for school and leisure time activities)

129. Inside the LISS-project the practical-esthetic subjects and areas for them have been very little observed. Activities in these subjects have instead been studied in the so-called LOFS project.

130. This project is directed from the Institute of Technology in Lund in co-operation with several institutions, local authorities for schools and leisure time activities, the School of Education in Malmö and the Institute of Sociology of the University of Lund.

131. The aim of the project is twofold:

1. To influence the writing of programs for building areas for this group of subjects with less division between the subjects than there traditionally has been.
2. To investigate thoroughly the problems and advantages of using the same space for both school and leisure activities. This co-operation also includes the use of personnel for both types of activities.

   For the time being it is a general tendency in Sweden to try to save investment costs through co-operative use of the same areas. The state commission SIA, (Utredningen om skolans inre arbete - The inner work of the school) also tries to find possibilities of using staff for leisure time activities in the schools during the school day. The intention is to take better care of pupils with little motivation for ordinary school work and let the school have responsibility for the pupils during the whole day. One important task for the project LOFS is to investigate different problems, both practical and psychological, which are connected with including new groups of personnel in the school. The demands upon material and space with this new organization must also be investigated. It is necessary to study what material can be used together, which additional rooms for storage of material are needed and so on.

132. A big hall, an earlier factory hall, is used for the experiment. The Institute of Functional Building Theory has arranged it as a full-scale laboratory using photographs and observations from the roof as instruments for the investigation. Walls can relatively easily be arranged or taken away, and different ways of using the space can be studied. Questionnaires and interviews with the staff and the pupils are also used in the experiment.

133. It has been clearly demonstrated through the experiment that common use of the same space and the same material and other forms of co-operation between the different staff categories lead to adjustment problems for the teachers, who on the whole have been accustomed to directing the situation in school for themselves. These problems must be thoroughly investigated before it is possible to introduce on a big scale such innovations as have been described. The LOFS-project can only make a small contribution to such an investigation.

(5) Specific Consequences for Teacher Tasks

134. The following is an attempt to describe, point by point, the consequences for the teachers' rôle of such widely separated projects as LISS, LINS and LOFS. In so far as the projects have been able and permitted to interact the list of consequences is adequate.

1. Encounter with "another world" (separate institutional forms in and out of school).

2. Increased collective use of teaching materials and premises

3. Demands for common planning of
   . 1 teaching (teamwork, themes, units)
   . 2 use of teaching materials
   . 3 disposition of premises

4. Domain-attitude versus ideological co-operation

5. Acceptance of new staff categories at school

6. Possibilities of systematic and variable choice of media

7. Demands for flexibility in grouping and environment

8. New teacher - pupil relations (the open school gives the pupil an alternative choice)

9. Increased participation in and responsibility for pupil welfare

10. Claims on changes of attitudes towards
    . 1 other subjects
    . 2 other working methods
    . 3 new tasks
    . 4 other grades and levels
    . 5 other individuals

E. Co-operation between pre-school and primary school: The FÖL project

(1) The Project

135. This project has developed from discussions on the problem of individualization in the first grades. The clinic experiment and the discontinuation of school maturity classes have been important factors in these discussions.

136. The FÖL project began as an activity within the Educational Development Group and was in 1970/71 constructed as a research and development project at the Malmö School of Education in co-operation with the social welfare and educational authorities in Malmö and in Burlöv, a community near Malmö. It has developed into one of the bigger projects in the Malmö region. It gives an interesting example of how a close co-operation between research and development work can be organized and fulfilled.

137. In 1973 the project has been adopted as a pilot project in a study on Permanent Education carried out by the Council of Europe.
The activities of the project can be divided into three areas:

a. Methods and material experiments

b. Experiments in organizing collaboration

c. Social-psychological experiments.

138. The aims of the experiments with methods and material are to provide the pre-school with a partly new and more structured content. A catalogue of activities has been constructed within the project with suggestions of activities for social development and environmental orientation (orientation in local studies, biology, physics, chemistry), linguistic development (including puppetry and improvisations), estethetic development (pictures, form, colour, sound, rhythm, movement), development of mathematical concepts plus suggestions for integrated fields of interest.

139. The catalogue of activities is intended to function both as an aid for the pre-school teacher in the educational activities of the pre-school, and as a foundation for co-operation between pre-school and primary school. The descriptions should serve as examples of how one can use a logical succession of activities to develop, for example, the grasp of concepts in children.

140. The aims of the organizational experiments are

a. To develop forms for co-operation between pre-school and primary school (grade 1).

b. To provide a foundation for the development of a non-graded school level comprising both pre-school and primary school.

141. Co-operation between pre-school/school can imply only teacher co-operation. This means that pre-school teachers and primary school teachers co-operate in various ways in order to become acquainted with each other's school levels with regard to content and methods.

142. Co-operation between pre-school/school can imply teacher co-operation and pupil co-operation. This co-operation means both teacher

co-operation as described above and an extended co-operation that also includes the children. Such co-operation provides a greater abundance of opportunities for giving the children activities that are suited to the individual child's level of maturity and development.

143. On the basis of the results and experiences obtained in the experiments and insofar as a fruitful co-operation has been developed between the school levels, it seems a natural step to extend the co-operation to include the following grades of the lower school level as well.

(2) Specific Consequences for Teacher Tasks

144. The FÖL project has implications for teachers both at pre-school and at primary level. This is true of all the cases reported as follows.

1. Encounter with "another world" (The two school-forms represent different institutional systems)
2. Teachers can complement each other's knowledge
3. Domain-attitude versus ideological co-operation (different fields of responsibility, differentiated teacher training)
4. Broadened responsibility. (Responsibility for several functions)
5. Demand for increased knowledge
6. Change of attitudes (Perhaps the most radical change)

F. Finding new roads towards school democracy

(1) Development and Research Work

145. The importance of involving the pupils in the planning and the management of the school work has been increasingly stressed in the new curricula in Sweden both for the grundskola and the gymnasieskola. National and international experiences have together contributed to that development. It started in Sweden in the middle of the sixties and the trend was intensified through the student movement at the end of the decade.

146. The project Student Democracy at the Malmö School of Education has studied different problems in connection with increased influence of the pupils on the school situation. The activities which have been studied in Malmö have on the whole not been different to those in other schools in different parts of Sweden. Attitudes to existing forms for student co-planning and ideas and wishes concerning the future development expressed by different groups of school leaders, teachers and pupils at different levels in the school have been analysed. The situation in teacher training has also been studied.

147. Of special interest are results from the lower and middle level of the grundskola although the pupils in the gymnasieskola have shown most ability in playing an active part in the planning of the school work, as was shown in the introductory glimpse p. 4.

148. School leaders, teachers and pupils in schools in Malmö have through questionnaires expressed their views about the actual and ideal balance of responsibility and influence between different groups in school. The opinions have been compared with those of Eiraskolan, Stockholm, which has experimented with very far-reaching pupil influence on the school work. Results from this investigation complemented with what has also emerged from the other investigations inside the projects can very briefly be summarized as follows:

. School democracy is a word of honour (honnörsord) which means different things for different individuals and groups. Some teachers and school leaders feel the question of increased student influence to be a threat, which they do not want to express openly.

. All groups state that the influence of the pupils should be increased, but both teachers and school leaders respectively are of the opinion that it should be increased at the expense not of their own group but of the other.

. A group usually judges its own influence as being less than other groups consider it to be. The school leaders, for example, consider the influence of the teachers to be greater than the teachers themselves estimate it as being and vice versa.

. All groups find their chances of influencing their work and the situation in the school too restricted because of regulations from authorities outside the school, local and central. The difficulties for both teachers and pupils to exert influence inside a representative system in big schools with many pupils has also been demonstrated.

. Irrespective of the actual influence of the pupils, the range of the questions considered most suited for pupil participation in decision making are also on the whole the same. The teachers find questions of subject matter and teaching methods less suited and matters of comfort and recreation most suitable for pupil participation.

. As far as the situation in teacher training, which was reformed in Sweden as recently as 1968, is concerned the project results give the impression that teacher students in their training receive too few opportunities of influencing their own studies and finding models for co-planning in the teaching process, and of developing commitment for democratic ways of organizing the school work.

. Studies in connection with the conflict between the teacher unions and the state authorities leading to strike and lock-out have on the whole shown that the pupils in the higher classes both have the will and the ability to take more responsibility for their own studies than they are usually credited with. At the same time their need of personal contact with the teachers was also clearly demonstrated.

149. One result from all the investigations in Malmö is that in spite of the fact that the curricula stresses the importance of student co-planning, it actually is of a rather limited scope. The teachers have on the whole a positive attitude to increased participation on the part of the pupils. But among other things a fear of an increased working load is a bar against radical changes in the traditional mode of working.

150. If real co-planning on a broad scale were to be introduced it would probably change the pattern of teachers' work a great deal.

(2) Specific Consequences for Teacher Tasks

151.

1. New types of planning and preparation
2. More flexibility in planning (to enable adjustment to pupils wishes)
3. More discussions with pupils on
   . aims (general as well as subject-related)
   . alternative solutions
4. More concentration on stimulating the pupils' own initiative
5. More training for all pupils in accepting responsibility for the school work
6. More concentration on problem-centered instruction
7. Increased emphasis on independent work and group activities (changed planning routines for teachers)
8. Development and use of new types and forms of teaching materials (allowing alternative courses and methods of study)
9. School-work evaluated in discussions and group talks with the pupils.

CHAPTER IV

GENERAL CONSEQUENCES FOR THE TEACHER'S FUNCTIONS

(1) The school as an institution

152. Both the developmental work in the Malmö schools and the research work within the Malmö School of Education have shown that it is not fruitful to analyse and discuss the functions or tasks of the teacher "per se". The analyses must be done in relation to the functions of the whole institution, that is the school. If instructions or regulations are altered or new personnel is involved in the school the functions of the teacher may be changed totally. The starting point for the analysis must therefore always be the functions of the school. It may then be described in four steps.

Step 1 What are the functions of the school in the community in relation to other community institutions (eg. social care, leisure time activities, youth care)?

Step 2 What are, more specifically, the different functions of the school system in a country?

Step 3 What are the different functions of different types of schools (eg. pre-schools, primary schools, secondary schools)?

Step 4 What are the teacher's functions within these different types of schools?

Step 1 is discussed briefly in the background chapter. On the whole there is in Sweden an effort to co-ordinate the work of the school with that of other institutions in the community. Our intention is to analyse and describe step 2, 3 and 4 taking the experimental and research work in Malmö as the starting point. We begin to describe the functions of the school within the experimental work and then discuss the resources for these tasks.

(2) The functions of the school within the experimental work

153. In a previous part of the report there is a description of different experimental and research activities within either the schools of Malmö or the Department of Educational Research at the Malmö School of Education. The activities in Malmö have of course been carried out in close connection with other developmental work elsewhere in Sweden, maintaining also contact with international trends. Nevertheless, the activities in Malmö have had their own profile within the general Swedish frame work, as well as internationally. For the teacher's functions the six following objectives have been of special importance.

1. A more pupil-centered instruction by means of
   - o use of individualized learning programs (IMU etc.)
   - o the construction of new teaching aids and planning the organization of teachings aids in more effective ways (PEDO, LUMO, LINS)
   - o use of flexible grouping (VGT, PEDO and IMU)
2. An emphasis upon the pupils' total personality development with an ambi-

tion to promote social development and democratic schooling by means of

- o more opportunities for the pupils to take an active part in the planning of the work (VGT)
- o more contacts between school and society outside school (PEDO)
- o engaging non-educational personnel within the schools (VGT, Open plan schools)
- o developing a more stimulating physical and social school environment (Open schools)

3. Achieving continuity in the individual development by means of
   - o co-operation between different levels in the school system (FÖL = preschool - primary school in co-operation etc.)
   - o working with groupings of a non-graded type (Open plan schools)
4. Special consideration of pupils with handicaps or special needs by means of
   - o attempting to integrate the handicapped children within a natural social setting by means of a special help program (clinic experiments, companion teachers)
   - o the construction of special teaching aids for handicapped children (LUMO, teaching aids for slow-learners etc.)
5. The pupil's own active engagement in the planning of the school activities by means of
   - o developing school democracy programmes (PEDO, Student Democracy project)
6. A problem-centered instruction by means of
   - o co-operation between different subjects within themes and units (PEDO, VGT, Open plan schools)

154. Of course it has not been possible to realize these positively formulated proposals without creating difficulties for other functions within the school. Conflicts or differences in opinions have arisen. Even these six aims are often in opposition to each other. Difficult adjustments may be necessited. These problems are discussed in a following part of the report.

(3) The resources for the experimental work

155. In principle the school has three different types of resources:

- o personnel
- o material and physical environment
- o pupils

The two first types of resources are always mentioned. But it is important to look upon the pupils too as a resource for the school. In Lgr 69 the pupils are dealt with not as objects but as participating subject within the work in the school.

The responsibility and the functions of the school in the experimental work (as well as in the curriculum development all over Sweden) have moved in the direction of more, widened, deepened and more difficult tasks to fulfil. In such a situation the following steps may be taken:

156. More resources in the sense of more teachers, more teaching aids, more material, more space and so on is an easy (but expensive) step to take to meet the difficulties. In the Malmö experiments this way of handling the problems is very seldom used. The experiments are carried out within the usual financial framework. The construction of new teaching aids has naturally meant more money, and in some experiments these costs have been fairly high (IMU etc.). There have also been special remunerations for experts, teachers and so on for some planning and reporting duties. However, the real "field activity" in the schools has been carried out within the usual financial framework.

157. Better resources means, for instance, better teacher training, a better standard of teaching aids etc. In Sweden as a whole a lot of money has been invested in such measures for raising the quality. Therefore, the activities in Malmö have not been focused upon any special measures of this type. Of course the production of new teaching aids, learning programmes etc. also denote higher quality.
The more important step taken in order to obtain a higher quality in the schools is the use of the pupil as a resource in the school work. In several of the projects in Malmö (PEDO, VGT, School democracy etc.) the intention has been to give the pupil better opportunities for using their potentials in the school activities - for their own development and that of their fellows. This may have an effect on the "power-balance" between teacher and pupil.

158. New resources means for instance new types of personnel in the school staff or the use of new teaching aids. Both in the ordinary school work and within the developmental projects, many new types of personnel have been introduced: school psychologists and other persons for pupil welfare, educational advisors, assistants, clerks and so on. In the experimental work one of the more interesting things is the use of teacher assistants and clerks within a teacher team. Generally speaking this has been done within the ordinary financial frames. One aim has been to decrease the costs in the experiments. or at least keep them at even level with the costs for the usual school work.

159. Better organized resources has been the special hallmark for many of the experiments in Malmö. This means that much of the work has had some connection with organizational or planning problems. The project on flexible grouping and team teaching has been focused on organizing the groups of pupils in such a way as to suit the particular learning situation and on using the teachers' professional skills in a more effective way. Within the open plan schools there has been a further development in using the space, the teaching aids and the teachers more effectively by organizing the work for the pupils more flexibly.

(4) Some principal consequences of the experimental work

160. The experimental work has shown that for the teacher's job the developmental work in Malmö has had two main implications. One is a development towards more differentiation. The other development has connection with this and means more integration.

(a) The differentiation process

161. When the functions of the schools have become more and more complicated, it has not been possible for a single teacher to handle all these duties In the developmental work in Malmö we can see how new types of personnel are introduced into the school system to fulfil some of the duties. These personnel are mostly of four types:

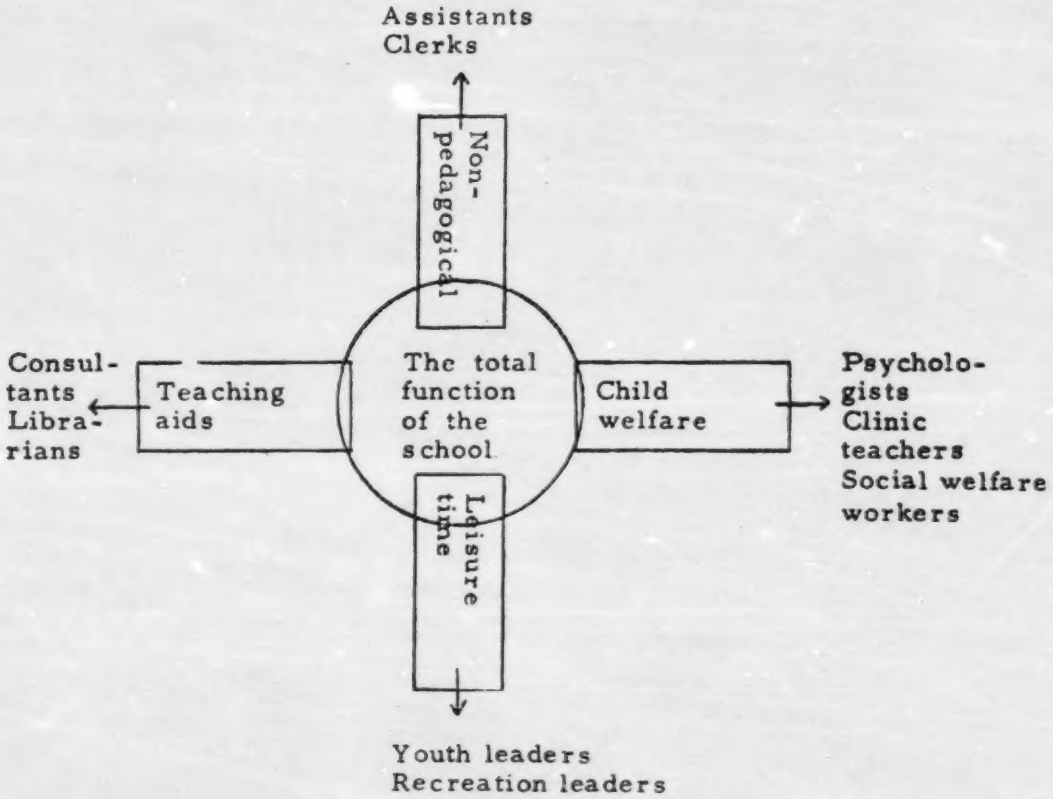
1. Personnel for pupil welfare functions, which means school psychologists, social welfare workers, clinic teachers.

2. Personnel for teaching aids functions, which means educational advisors and teaching aid consultants, school librarians and so on.

3. Personnel for mostly non-pedagogical functions such as assistants and clerks.

4. Personnel for leisure-time activities linked to the school day, such as youth leaders and recreation leaders.

162. This process of differentiation can be expressed by the following diagram, where the arrows indicate that some functions are taken over by specialists of some type.



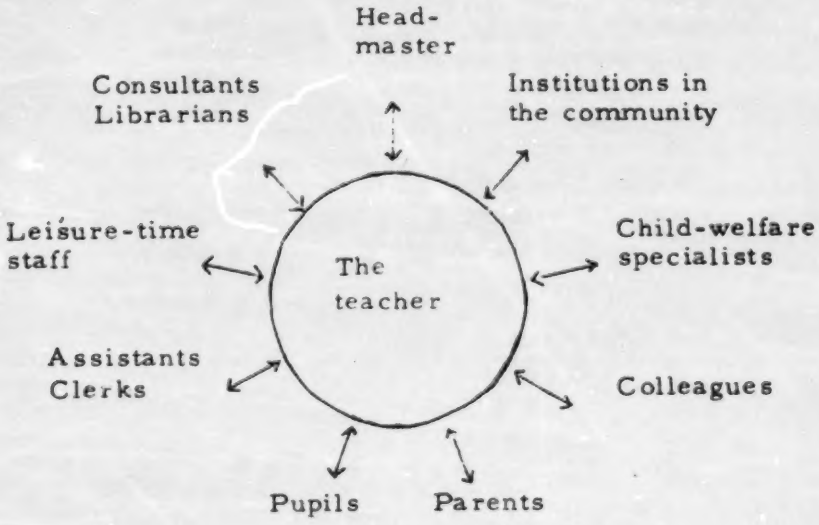
Parallel to this there has been an overall development in Sweden towards more responsibility being taken by the school for the pupil's health welfare and social care as a whole which means eg. more personnel within schools for working with school lunchons and also the introduction of special school hostesses for helping children in their leisure time etc. in the school.

163. This entire development of differentiation of the school's functions has divided the responsibility for the tasks of the school between many types of personnel within the school (VGT, PEDO, IMU etc.). At the same time this differentiation has not meant that the responsibility for certain functions has been taken away totally from the teachers. This is a difficulty for the teacher. It very often means responsibility but a shared or even differentiated job.

164. The introduction of new types of personnel into the school staff is not the only process of differentiation. There has also been a differentiation of functions between the teachers as shown for instance within the VGT and the PEDO projects.

(b) The integration process

165. If the school system is to be capable of functioning in an effective way, all the very complex duties and jobs must be co-ordinated in some way or another. The single teacher or team of teachers must be responsible for this co-ordination and integration. For the this means single teacher developing a very large contact area. In the following figure such new contacts that are typical for the experimental work in Malmö are shown, together with more conventional contacts between teacher and pupils and parents.



This integration process has many implications for the teacher's rôle as will be shown further on. More specifically we shall also deal with the differentiation of the teacher's functions in some of the following parts of the report.

(5) New patterns of functions

166. We have here used the expression "teacher's functions" to describe the main type of tasks connected with the job. By the term "teacher's rôle" we mean those expectations that different persons (including the teacher himself) have on the teacher's job. In a research project (PIL) at the Malmö School of Education it has been shown that different groups of people (such as head-masters, consultants, teacher trainers) put varying degrees of intensity into different expectations on the teachers. The research project has shown, that regardless of what emphasis is placed upon different functions, it is possible to arrive at the same structure of the teaching tasks. In this report we will take this structure as the starting point for our analyses.

167. The teacher has two types of functions, which are of course closely connected. One type we will call primary functions, which means tasks that are more directly connected with the work together with the pupils or - in other words - those functions for which the school is intended. Another type are secondary functions, which means teacher tasks that are necessary in order for the teacher and the school to fulfill their primary functions.

(a) Primary functions

168. One primary function for the teacher is to fulfil tasks connected with the pupil's cognitive development. In the experimental and research work this has been modelled

- o partly as more individualized and pupil-centered instruction (IMU etc.)
- o partly as an emphasis on continuous individual development (FÖL etc.)
- o partly as more problem-centered instruction (PEDO etc.)

This has many implications and it is possible to give only a few small hints. It involves

- o motivating the individual pupil, which necessitates knowledge of children's needs
- o introducing relevant knowledge, which necessitates a good knowledge in the various subjects
- o individualizing the instruction, which necessitates a good knowledge of methods for diagnosis
- o creating a good learning situation, which necessitates good planning and management.

169. In the developmental work we find special emphasis on a continuous diagnosis (Clinic experiments, FÖL, IMU etc.) and not, as before, one single diagnosis, often with dramatic effects for the children. In the experiments with team-teaching the pupil has experienced sense of anonymity. To some extent this has been compensated by the fact more teachers knowing the child and by the development of special registration systems. (In some VGT projects report cards are used where continuously the teachers are recording the pupil's achievement etc.)

170. Another primary function deals with tasks related to the pupil's social and emotional development. In a research study (PIL) this has been found to be the function with the highest evaluation. In the experiments a great deal

of emphasis has been laid upon these tasks. The foundation for these tasks is

- o wide experience of diagnosing single pupils and - especially - groups of pupils
- o the ability to handle group situations
- o the ability to work together with children

These last aspects have special implications in the student democracy projects, PEDO and VGT projects. In some aspects the teacher's field of responsibility is narrowed. The pupils take over responsibility from the teachers, but the teacher himself takes over some responsibility from the headmaster.

171. A third primary function, but of a less pupil centered type, concerns the teachers' tasks in connection with teaching aids and teaching media. Some of the research projects have developed a more or less programmed material. Here the teacher's tasks are greatly minimized (IMU, UMT etc.). Here we have two interesting findings. The teachers express a need for self-instructional and near self-instructional teaching aids. When they get it, many teachers hesitate to use it. They find it not suitable for their instructional methods or for the needs of their pupils. On the other hand many teachers have found out, that teaching aids which are easy to handle by the pupils, give more time for the teacher to work in close personal contact with small groups of children and with children, who need special help.

(b) Secondary functions

172. It is not possible to make a very clear distinction between primary and secondary functions. For instance much planning work must be done outside the learning situation, but still we call it a primary function. The secondary functions of the school are those tasks which are necessary for the school to fulfil its goals. Many of these tasks are ordinarily located outside the teacher's functions, for instance such administrative work which is the head-master's duty or such service work which is up to the caretaker to handle.

In the experimental work in Malmö, two such secondary functions for the teacher, which we will call (a) the co-operative function and (b) the developmental function, have come to the fore.

173. The co-operative or communication function consists of such tasks which are connected with the teacher's contacts with colleagues, specialists, head-masters and so on according to the scheme given above. There is an interesting contradiction in this development. In order to help the teacher to fulfil the many complex tasks which he has in the school today, many different kinds of experts and service personnel are introduced into the staff. However, the teacher or the teachers must be responsible for the integration of the tasks of these new members of the staff. This has at least two consequences for the teacher. (a) The teacher must spend a lot of time in communication work: formal or informal conferences, visiting experts, telephone calls etc. (b) The teacher must acquire a fairly good knowledge of those matters which he has to discuss with experts, eg. training programs for handicapped children, psychological and social matters etc.

It soon becomes apparent that such communication work functions best, if the work is done as team-work, where the responsibilities are shared between the members of the team. If such team-planning is to be flexible enougn much of the administrative work (eg. scheduling, planning of working spaces etc.) which formerly has been done by some administrative expert

in the school, to some extent must now be carried out within the team. Summing up, the following consequences can be seen from the experimental work in Malmö with regard to the teacher's co-operative functions:

1. Relatively more of the teacher's tasks are transformed into secondary functions (planning, administration, communication) from primary functions. On the other hand some secondary functions of a clerical type are cancelled out.

2. The teacher must acquire knowledge of a great variety of special subjects in order to communicate with specialists.

3. The teacher must be able to use his own special knowledge and interests within a team with shared responsibility.

174. By the teacher's developmental functions we mean those tasks which involve activities for the teacher's own personal and vocational development, as well as activities for the development of the school. It is evident that this development aspect comes into focus in an experimental setting as in Malmö. On one hand this means, that the teacher has to read a lot, has to take courses and so on in order to be better fitted for the experimental tasks. On the other hand it means, that the teacher has to take part in many planning and construction activities, which in a non-experimental setting are conducted outside the individual school. Typical examples of this type are curriculum planning in a broader sense and the construction of teaching aids. Very often the teacher also has to take part in evaluation tasks within the experiment and in information and documentation work, related to the experiments. This last function very often not only gives new work, it usually also gives more work. This has special consequences for the innovation process as such, which we will discuss later.

(6) New ways of fulfilling the functions

175. Above we have discussed the consequences of the developmental work for the teacher's patterns of functioning. There we have focused upon what the teacher has to do in these experiments. Another prominent aspect is the teacher's way of fulfilling these new patterns, eg. how work is done. Here we can see at least two consequences: (a) The decision making process. (b) The teacher's taking of responsibility. These two aspects are closely related to each other.

(a) The decision making process

176. In the traditional configuration "one teacher - one class" the teacher makes all the decisions and takes the responsibility for his actions. In the experiments in Malmö the decision making process is much more complicated (VGT, PEDO, FÖL, Open plan schools). In a research project (PIL) it has been possible to figure out several different possibilities:

1. The teacher himself decides and carries out the tasks.
2. The teacher himself decides and some other person carries out the tasks.
3. A team decides and the teacher carries out the tasks.
4. A team decides and some other person carries out the tasks.

In the experimental work there is a clear transition from activities of type 1 to activities 2, 3 and 4. We have found, that usually the quality of the decision-making process has been raised by this transition in the sense that it is more pupil-centered, more helpful and involves less punishment.

(b) Taking responsibility

177. In nearly all the experimental work in Malmö the degree of the teacher's responsibility has been altered. This process has been very different in the different projects.

1. There has been a strong tendency for the teacher to acquire more responsibility, either by taking over some of the responsibility from the headmaster, such as planning, scheduling and co-ordinating (PEDO, VGT etc.), or by being given responsibility for a much wider area, such as following up individual learning programs, making continuous evaluation etc. (IMU, Clinic experiments, FÖL, etc.).

2. There has also been a movement towards shared responsibility together with colleagues or specialists.

3. Thirdly, in many projects there has been a development towards responsibility for a larger group of pupils (VGT, Open plan schools).

4. As has been shown very often teachers also have to delegate responsibility to pupils or share responsibility with pupils (School democracy, VGT etc.).

178. Taken together this means much more of a management rôle within the school. For many teachers this has been a positive trend, for others not. Perhaps it has created a stronger polarization within the school between those who take responsibility for such planning, administration and co-ordinating activities and those who do not.

179. In those projects which have been centered upon method-material programs, there has been a feeling of having too low a level of responsibility for educational work and more responsibility for administrative routine work. When these method-material projects have been combined with flexible grouping and team-teaching this feeling of having too much routine work has mostly been cancelled out, because it has been possible to use teacher assistants and clerical aids (cf. IMU).

(7) New attitudes and new values

180. In the beginning projects concerning co-operation between school levels, team teaching, open plan schools etc. very often add to the teacher's tasks and make them more difficult, which in some cases gives rise to opposition against the innovation process. A positive attitude to the innovation is necessary if it is to turn out a success. In many instances it is difficult for the teachers to handle the new methods etc. and this means much more in-service training. In all experimental work there are at least three areas to cover.

1. The teacher needs more knowledge.
2. The teacher needs new skills.
3. The teacher needs changed attitudes.

This gives the teacher a wider and more objective attitude to different working methods and different organizational solutions.

(c) Attitudes to other subjects and other levels

186. It is very common for teachers - especially in secondary schools - to have very little insight into subjects other than their own teaching subject. Working in teams (eg. PEDO, VGT) means, that the teacher gains some insight into other subjects and other problems. This gives him a wider perspective and gives him the opportunity of putting his own subject in a larger reference system.

The most dramatic effect upon teachers' attitudes comes perhaps from those projects, which work with problems connected with the child's transition from one school level to another, for instance the FÖL project. This has meant opening a new world to the teachers, a world with different problems and different systems of values.

(8) Administrative and organizational problems

187. Educational change may follow several types of procedures. One is the individual change, which takes place for instance through inservice training. New teaching methods, new materials, new goals and values may be introduced in this way. Another type of measure involves organizational change, where the functions of the school are more or less controlled by new organizational and administrative rules. A third type of measure is the changing of the physical conditions in such a way that it gives different premises for the work. The last type of change is discussed in a previous section in relation to open plan schools and we shall not enter into these discussions again.

As organizational change has been so predominant in the experimental work in Malmö we will extend the discussion a little. There are of course many problems connected with the development of team teaching, student-democracy projects etc. Three of them deserve further analysis.

(a) Development of an informal planning and decision making structure in conflict with the formal decision structure

188. The decision structure in the formal system is hierarchically built up not only on a national and local basis but also within the individual school with head-master, director of study, senior teachers, teachers, pupils. In the experimental work this has been broken down and replaced by functional teaching teams, where the team and not an individual person is responsible for the work. The legal structure then is built up hierarchically, and the real structure functionally. This means a situation, where the two structures very often come into conflict. There are for instance cases, where the real responsibility for the working situation in a school is in the hands of the teams, but the legal responsibility rests with the head-master, director of studies etc.

(b) Conflicting or competitive activities from different teams

189. If the planning is the responsibility of the different teams, many situations arise in which it is necessary to co-ordinate the teams. The more responsibilities and the more flexible the opportunities that are left to the teams, the more difficulties arise in this co-ordination. This may place a heavy load on team leaders or single members of the teams. In order to avoid this it is important for the school leaders to take a very active part in co-ordinating the teams.

(c) Administrative control and continuous planning

190. In several schools it has been felt necessary to avoid conflicts in the planning system by a more centralized scheduling of, for instance, rooms, groupings etc. The teachers very often feel that this is a factor of rigidity within a school system that is intended to be flexible. Some schools therefore try to avoid too much longterm planning and instead use a more continuous planning, which very often means more work for the teachers but better opportunities to adapt the planning to the current problems and the needs of the pupils.

191. In summing up these three aspects of the organizational problems it may be said that there have been many attempts to solve them, but so far it has not been possible to find an ideal solution.

(9) Economical problems

192. In an appendix to chapter I is shown, how the economical responsibility is divided between the state and the local community. As this has had an effect upon the special design of many of the experiments, something must be said about how the relation between man-power and costs is effected.

The experiments have usually taken place within one of the two economical systems. In the VGT, the PEDO and the PRIS projects the organizational design is mostly covered by the resources for teachers that are regulated by the state. This means that, for instance, teaching aids and many specialists in social work and pupil welfare cannot be taken into account within the organizational frames. In other development work, such as the LINS project and the building of open plan schools, the costs for teachers or for the in-service training of teachers cannot be calculated. These facts have placed many restrictions on the developmental work.

It has not been possible to tackle the consequences of these factors in the experiments in Malmö, because these must presuppose another technique for budgeting. It is perhaps possible to assume that if one wishes to have a well-functioning school system the responsibility for resources for the work must rest as closely as possible with those people who have the responsibility for the functions. What has emerged from the developmental work of the Malmö type is that it is necessary to solve the problem of what are the best "steering" instruments on different levels in a school system.

(10) The innovation process

(a) General characteristics of the experimental and research work

193. Most of the experiments in Malmö are typical field experiments. By this we mean that they

- have grown out of needs and ideas in "the field"
- have developed and are organized within "the field" (the local community, the school, the teachers)
- have very small special resources for the experimental work (but in some cases quite a lot for the scientific analysis of the experiments)

194. The experiments may have been prompted by some general school reform or some general policy or developmental aspects in the Swedish so-

ciety, but the design of the experiments originates from teachers, school-leaders and so on.

195. Most of the experiments are designed in a dialogue between field workers (teachers etc.) and educational scientists. There is nearly always an evaluation component in the experimental design. The resources for running the experiments mostly come from the local community but the resources for the scientific counselling and evaluation are given by the state.

(b) Difficulties met in the innovation process

196. Difficulties may arise in many different stages of an experiment: initiation, planning, execution, evaluation, dissemination etc. We do not discuss these aspects here. Instead we shall analyze some main types of difficulties in the Malmö developmental work.

197. An innovation must in some essential sense meet the needs of the people involved in the innovation. In psychological terms one may speak of "need-reduction". For instance the teachers must feel that there is a problem that needs to be solved. It is not always clearly seen how a particular experiment can meet such needs.

A more difficult problem is that persons within the school system also have different needs, some of a personal type, others more related to their occupational functions. This means, for example, that the needs seen from the point of view of the whole school, the society, the school-leader etc. may come into conflict with the teacher's needs or the needs of different types of teachers (eg. pre-school and primary school teachers). Therefore a serious discussion as to how a particular experiment influences the needs of different persons or organizations must be conducted.

Closely related to the problem of need-reduction is the problem of what in curriculum planning is called "social adequacy". By this expression is meant that an educational activity has a rather close relationship to the social system, the group etc. that the person belongs to. This has relevance for formal and informal configurations such as the school staffing, the teachers' unions etc.

198. Many difficulties appear within the area of attitudes. The first appears if the aim of the project is vague. This may result in confusion among people engaged in the experiment. Those involved develop their own picture of what are the aims of the experiment.

Another difficulty is that the attitude of the innovator is perhaps not conveyed to those engaged in the experiment. Thirdly there may be a real conflict in attitudes and values among those who work within an experiment, if steps are not taken to try to solve this problem of values.

In some projects a conflict model is in fact built in, in the sense that some of the aims are in real conflict to other aims. This may be a model for development, if one is really aware of and makes use of these contradicting forces.

A special problem of great importance in the Malmö experiments is the rotation of people within an experiment. People (teachers) who have started an experiment get new posts within or outside the school. Those who take their places often do not have the same attitudes or are only vaguely aware of the aim of the project.

199. Difficulties related to a lack of knowledge are noticed both in people responsible for the experiments and in teachers and other persons involved in the experiment. In-service training is often a solution to these difficulties. As has been shown previously the resources for the training of teachers and school personnel rest with the state (in special organizations and colleges for teacher training). Therefore one problem not yet solved has been how a locally

innovated experiment can rely on the central resources for teacher training. A related problem is that there have not been resources or time for systematic analyses, which provide the new knowledge needed in an experiment. Often therefore the in-service training, courses etc. have not met the real needs. Here methods for a more systematic analysis are being developed.

200. Very often there has been a lack of resources for the developmental work. In an innovation it is nearly always necessary to have special resources during the first innovation period. This includes not only resources for research work, but also for "field work". Special resources are also necessary when it has been decided to implement the results of the experiments.

201. Regulations and recommendations often cause difficulties for the experimental work. It may be difficult to find solutions which do not come into conflict with regulated organizational circumstances etc. In some cases the Ministry of Education has dispensated from such central regulations (eg. IMU has been permitted to use money intended for teachers' salaries partly for educational material).

202. There has been a tendency from central authorities to try to promote the educational progress into certain directions. In some cases the local development comes into conflict to this. Local research and developmental work may have difficulties to get accepted by the central authorities. Even if there is a quite clear effort to come to a dialogue between central and local interests difficulties sometimes arise to make this dialogue fruitful.

203. The unions of the teachers have a positive attitude to educational research and development activities. But they often make another priority of what are the most needed measures to take. All the unions of course try to develop the best economical and working conditions for their members. Some organizational experiments and new working conditions may in some instances bee seen as a threat to existing routines or privileges. The unions of the teachers recommend their members not to engage in local organizational research and development work without permission from the unions.

204. A real effort has been made to take all these problems into account in the Malmö experiments, but in spite of this they have presented difficulties which have not been, so far, sufficiently well overcome.

CHAPTER V

POLICY MEASURES

205. The research and development work done in the Malmö region has exerted a great deal of influence upon policy measures taken and change effected within the Swedish school system during recent years. Some of these steps were taken on local or regional levels, whereas others have been taken centrally, influencing the whole school system. Some of these steps are the outcome of positive experience, others are to a greater or lesser extent the consequences of difficulties and problems that have arisen in the development and research work undertaken. Sometimes it is difficult to know how great the influence of the Malmö activities has been, as parallel activities have been carried out in other parts of Sweden. We will indicate only some of the most obvious measures taken during the last five years or so, with the emphasis on circumstances which have had an impact upon the situation of teachers. Also, we will indicate some problems which have to be dealt with in the future.

(1) Central measures

(a) New curriculum, new recommendations

206. Some of the Malmö projects have made obvious and important contributions to the new Swedish curriculum for the grundskola, the Lgr 69. The PEDO projects in Malmö and Skellefteå offered models for the pedagogical organization recommended in the curriculum text for the upper level as regards team teaching, flexible grouping, subject matter division into (often cross-disciplinary) study units etc.

207. The remedial clinics in Malmö and elsewhere were part of a general Swedish trend away from the use of special remedial classes towards a more integrated teaching of the handicapped in "clinics" or regular classes with the use of a companion teacher alongside the class or subject teacher.

208. In some respects, the IMU project has introduced the new mathematics to the whole of Sweden, but at the same time, the IMU model as such is still subject to discussion.

209. The SAMSKAP schools opened up the general debate in Sweden on the building implications of educational change. However, at the same time these open plan schools caused violent debate on school building and the physical environment of education as a whole. Several open plan schools have been built or are being built in Sweden, more or less modified in relation to the Malmö experience. The National Board of Education gave permission to some local authorities to build freely under the general cost ceiling but, at the same time, issued alternative norms for school building, these norms in effect offering a kind of compromise between traditional schools and the open plan schools.

210. The FÖL project, trying to integrate preschool and primary school activities, is still a very recent project. Nevertheless, many similar activities have followed in its wake in other parts of Sweden.

(b) State committees

211. State committees, appointed by the government and consisting mainly of members of parliament with the help of experts, form an important instrument for achieving change in the Swedish society. At present, three committees appointed by the Minister of Education are dealing with issues, which were mentioned in the previous discussion. The SIA committee, dealing with the inner activities of the school, has initiated experiments aiming at a more flexible use of the resources of the school (one of these projects being the PRIS project, see above p 24). In a recent debate publication the committee discusses an organization composed of teams of persons in the whole school on all levels. They also recommend a more flexible grouping of pupils. - The SSK committee (State, School, Local authority) has the task of working out how to divide resources and responsibility between the state and local authorities in order to develop a more decentralized system. The State Committee on Early Childhood Education (day care centres, pre-schools) is working on problems concerning the co-ordination of pre-school and primary school and of school activities and leisure time activities on the primary level, and with the organization and training of staff for these purposes.

(c) Education development centres

212. The idea of establishing "education development centres" originated in Malmö. Together with Kalmar, Malmö was the first local education authority to be given permission to form such a centre. This meant that the National Board of Education would contribute certain financial resources, equal to those provided by the local authority, and also appoint a steering group for the centre, which was to work in co-operation and consultation with the central authority. The experience gained in Malmö, Kalmar and, somewhat later, Skellefteå and a few other places was positive. Later a programme for the continuous establishment of new such centres, receiving state grants over a period of five years, has been developed. At present, each such centre has to tackle a different problem or, rather, set of problems (such as team teaching and flexible grouping on the upper secondary level - Sundsvall -, pastoral care of pupils - Uppsala -, or the teaching of Swedish on all school levels - Gothenburg). Common to all is the purpose of stimulating teachers to developmental and experimental activities, building as far as possible on their own initiatives, but providing them with some extra resources and incorporating them in a network of local contacts and contacts with the central authority. For Sweden, the organization and work of development centres has formed an instrument for innovation instead of individual experimental schools. For a long time the relationship between the R&D work carried out in research institutions and in the educational development centres has been unclear. At present a couple of models for co-operation are being discussed. However, in Malmö a model has been worked out and put into function to general satisfaction. The problem of the long-range financing of this co-operative arrangement remains to be solved.

(d) Programmes of development

213. According to a decision made in parliament, school reform in Sweden is to be a continuous process in the future. To serve this purpose, the National Board of Education has recently appointed working groups with the task of suggesting possible directions of reform for the period ahead. These groups are taking into account both needs and problems experienced by local and central authorities and results from research and development work. To a certain extent, proposals presented by these groups draw upon the Malmö development and thus a definite effort has been made to make use of local

experimental ideas and results of development work as an incentive for centrally initiated innovation and reform proposals.

(2) Local or regional measures

(a) Teacher training, in-service training of teachers and heads of schools

214. In Sweden, teacher training is the responsibility of the state. In in-service training, central, regional and local authorities co-operate, also consulting the teachers' unions. Thus, teachers' training as such is less flexible and it takes longer for locally initiated innovations to penetrate into the vestiges of teacher training. During recent years, many summer courses and so-called study days (each Swedish teacher has to take part in 5 such days over the school year) have been focused upon new pedagogical organization, such as team teaching, flexible grouping, cross-disciplinary work including the division of subject matter into study units etc. Locally, study packages for teachers in the Malmö area open plan schools have been produced. With a state subsidy these are now being revised for use with teachers and heads of open plan schools all over the country. The schools which developed the PEDO model served as bases for in-service training when the Lgr 69 was to be introduced. Films, slides, organization charts were produced to demonstrate how the work was done, but, also, study visits were organized on a broad scale. In certain projects, e.g. the FÖL project, teacher in-service training is an in-built feature of the programme itself.

215. As the rôle of heads (of schools, departments etc) is changed in schools according to new models of work, the importance of their training for pedagogical and not merely for administrative tasks has greatly increased. New efforts have been made lately in Sweden and the rôle of the head as initiator of innovation has received special attention. However, much remains to be done within this domain.

216. In Malmö, the co-operation between the School of Education and the Local Education Authority is close, indeed. Also there has been a fruitful interaction, as the presence of a large teacher training institution in Malmö inspires teachers all over the local school system to constant review of their methods. At the same time the existence of active innovative work within the local school system gives practising student teachers the opportunity of watching the innovational activity at first hand. In spite of this, it must be said that there are difficulties in introducing innovations more systematically into teacher training. The overcoming of these difficulties seems to be one of the key issues which have to be dealt with.

There are schools for experimentation and demonstration attached to the Schools of Education, but belonging to the local school systems. These also play an active rôle in the local experimental work and may sometimes serve as valuable links between field activities and research institutions.

(b) Reference groups

217. Difficulties arising during the process of innovation in Malmö demonstrate the importance of attempting to involve everybody who would be affected by the innovations in the process itself and offering them an opportunity to influence the research and development work. From the start of the educational developmental area in Malmö, there has been a co-ordinating committee with representatives for teachers, administrators, researchers and other persons involved. Nevertheless conflicts and misunderstanding have arisen, especially

between representatives of the unions of teachers and the school authorities. Therefore, at present, in all experiments where teachers or other personnel are affected, they are invited to send representatives to reference groups. Very often, pupils and parents are also represented in these groups. A fruitful dialogue between teachers and others involved on the one side and those responsible for the research and development work on the other hand, has emerged. The outcome of this dialogue is exerting a positive influence on the innovative process itself. In a previous section (203) the risk of the union of teachers having a conservative influence is discussed. Therefore it is very important to find ways of involving both unions and other more or less official representatives of the parties involved so that positive reform work is favored

(c) Feedback from research work

218. As soon as possible, links were formed between those responsible for the development work within the Malmö school system and the leadership of the Research Department of the Malmö School of Education. A constant interaction has emerged, teaching the research workers the importance of giving a continuous feedback to teachers and decision makers. This may be a difficult process as, very often, teachers and decision makers (parents, pupils etc.) are apt to expect clear and simple answers to hard and complex questions. Those working on the development side are slowly learning how to put their questions, what to expect and not to expect in the form of answers and what use to make of information received. Over almost ten years of constant work in co-operation, a fruitful dialogue has developed between all parties involved, thus leading to a kind of spiral effect of action and reflection leading to research, the result of which is fed into renewed action, which in its turn very often leads to the need for renewed reflection and research etc.

CHAPTER VI

SUMMARY AND CONCLUSIONS

219. The present report on such development and research activities in Sweden which have had an impact on teacher tasks bases its findings on experience made in the Malmö area. Nevertheless it is written within the general frame of reference of the development of the whole Swedish school system roughly during the decade from 1962 through 1972, during which decade the nine-year comprehensive and compulsory grundskola was established at the same time as major reforms were proposed and introduced also on other school levels. Primarily, the Malmö activities aimed at solving the essential problem of realizing a combination of individualization and social education as means towards achieving the main objectives of education. From various angles, several development and research projects approached this problem, as described in the report. Out of the activities implicit in these projects emerged new patterns of teacher tasks or, rather, changes in the total personnel organization and rôle division within schools.

220. It is on this change in teacher tasks that the descriptive and analytical parts of this report are focused (Chapters II-III and IV, respectively). The background material has been furnished both by the Educational Development Centre of the Local Education Authority of Malmö and by the Department of Educational Research of the School of Education in Malmö.

221. The emerging new patterns for teacher tasks have formed the basis for policy measures taken on central as well as on regional and local levels. However, to a great extent they still pose problems which have to be tackled and studied, possibly also will have to lead to further policy measures. The possibility of certain measures are at present being studied by major governmental committees (see Chapter V). In general, the Malmö innovations have exerted a great deal of influence upon the development of the Swedish school system in recent years.

222. The following points form an attempt at summarizing both the main conclusions that seem to emerge regarding new patterns for teacher tasks, also regarding the conditions under which such patterns may further develop and the policy measures which seem to need to be taken for this purpose. Included are mainly such conclusions which would seem to be possible to generalize and to apply also in a non-Swedish context. This is why they have been given a fairly general form. No attempt has been made to distinguish between such issues which have already led to policy measures in Sweden and such issues which are still being investigated as to their future implications.

223. General conclusions

1. The Swedish school system, as the school systems in most modern democratic and industrialized societies, aims at the allround development of its pupils as individual personalities and at the same time at making them grow into good citizens of the society of to-morrow. The major means towards these ends are individualization of instruction and an emphasis on the social development of pupils.

2. A school which aims at combining these means for achieving its basic

objectives needs to develop in the direction of increased flexibility in the use of its resources as well as in the several activities of the school.

3. Working in this direction, the outcome of the innovational and research work in the Malmö area during the last decade has come to mean a movement away from a static and rigid system (regarding the use of teachers, grouping of pupils, scheduling time, subject division, planning of school building, use of teaching materials) towards a dynamic system (regarding the same basic resource factors of the system), entailing continuous change, primarily planned by heads, teachers and pupils in co-operation.

4. As a consequence of this development, new patterns have emerged for teacher tasks. In general, they may be characterized as a development both towards differentiation and towards integration.

5. At the same time, new categories of personnel in addition to the teachers are introduced into the schools.

6. New working methods and a different pedagogical organization are placing new demands upon the school building and the educational material. Also this way, the teacher's tasks have changed.

7. In general, the teacher's primary functions have become more pupil-centered and with more emphasis upon the pupil's social and emotional development, but also upon the handling of new teaching aids.

8. Relatively more stress is placed upon the teacher's secondary functions, such as co-operation and administration.

9. Teachers have to share decision-making and responsibility with several adult persons and with the pupils.

10. Special efforts have to be made to develop the capacity of the pupils to take part in the decision-making process in the school.

11. Working within a system of continuous change and innovations requires increased knowledge, new skills and different attitudes from the teachers.

12. Systematic change in teacher training as well as continuous in-service training of teachers are major prerequisites for innovations to grow and to prevail.

13. The schools need personnel resources e g heads of departments and educational advisors for helping teachers to meet new tasks.

14. Representatives for teachers and other persons involved ought to be able to exert some kind of organized influence upon the process of change.

15. Flexible frames for financial and administrative planning are needed for the handling of innovations in the proper way.

16. Specific resources are needed for the management of innovations in the initial phase as well as for their implementation. However, in principle, the innovations themselves should be developed within the existing financial frame-work.

17. In order to maintain the dynamic character of a system of development, a flexible use of teachers, other personnel and material must be allowed for inside a given frame-work.

18. For the dissemination of locally or regionally developed innovations a dialogue should be maintained between local and central bodies.

19. Educational development centres have proved to form valuable instruments for the emergence and implementation of innovations through teachers, administrators and local authorities.

20. A close relation to an educational research department has proved fruitful for the planning and evaluation of locally initiated innovational activities.

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